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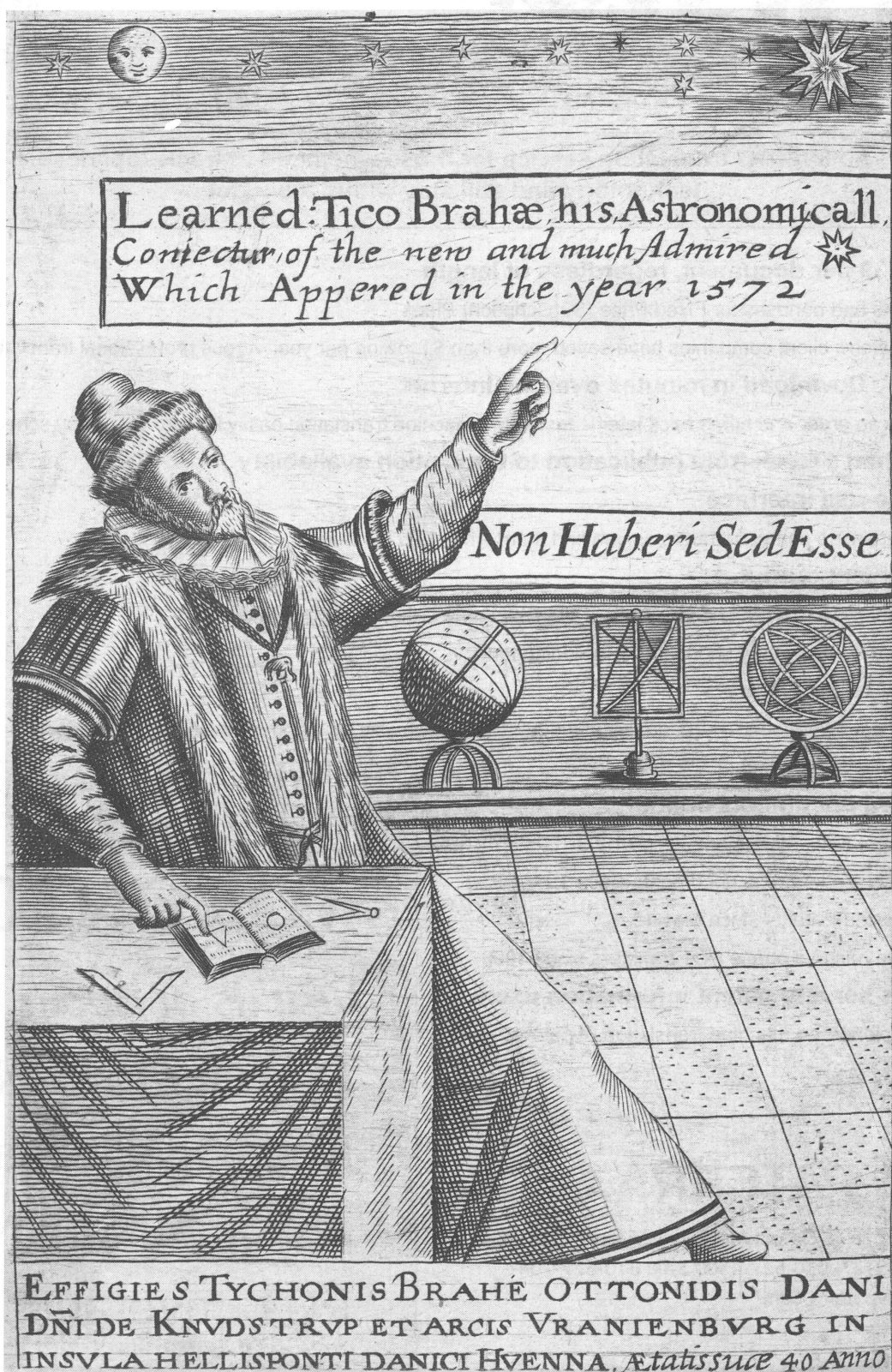
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# SciTech News

The Official Bulletin for the Chemistry, Engineering, Materials Research and Manufacturing, and Science/Technology Divisions and the Aerospace Section of the Engineering Division of the Special Libraries Association



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Volume 59, Number 2 May 2005  
ISSN 0036-8059

# SciTech News

Ellis Mount, Editor Emeritus



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## On the Cover



In 1572 Tycho Brahe observed a nova (new star) in the constellation Cassiopeia. By making careful measurements with a sextant, Tycho discovered that the new star did not shift its position with respect to the other stars, and therefore it really was a star. Since conventional opinion held that the heavens were perfect and unchanging, this was disturbing, but Tycho's evidence was so convincing that his discovery marked the beginning of the end of the doctrine of the immutability of the heavens.

Tycho's treatise on the new star (*De stella nova*, 1573) was translated into English in 1632 as *Learned Tico Brahe his Astronomical coniectur*. For the occasion, a handsome engraved title-page was printed, showing Tycho Brahe pointing to his new star. The phrase "Non haberi sed esse" ("not to seem but to be") was Tycho's personal motto. (Photo and caption courtesy of the Linda Hall Library of Science, Engineering & Technology.)

## Copy Deadline

February Issue .....	Jan 5
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# SciTech News

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## From the Editor

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The month of May is often a busy time for many people, getting ready for traditional (in the U.S. anyway) June events such as weddings, graduations, and oh yes, that major event for special librarians, the SLA Annual Conference.

This issue is brimming with conference session information from our divisions. As usual, the amount of interesting, useful and conflicting sessions boggles the mind. Division conference planners must be superhuman to arrange for all this content and the sponsors that enable them. As always, too, there is provision for some fun, both in the evenings and on the Thursday excursions.

In addition to the more descriptive content about the sessions, we have also provided a cumulative "dance card" listing just the times and titles of all the events from our participating divisions. We hope this new feature will be useful and serve at the very least to point out the tremendous value that our divisions add to the conference.

I'd like to bring several items about the conference to your attention.

- ★ First I guess has to be the substitution of Gary Hamel for the all-too-brief addition of President Bill Clinton to the roster of General Session speakers. Mr. Hamel is no slouch, and the security will be MUCH less of a hassle.
- ★ Second is that the Annual Business Meeting has been moved from its usual time on Wednesday am after the keynote speaker to the Tuesday evening before, at 5:15-6:15. I have a feeling this may yet change, so please be sure to check the final program. This should be an important meeting, where dues and the change of Association year are discussed, and the new officers introduced. I hope that many of you will make it a point to get to the meeting.
- ★ Third is the reappearance of REAL no-conflict times for the Exhibits (EXPO). Since I have been frustrated with EXPO in the past on both sides of the coin, as a vendor and as an attendee, I heartily welcome these opportunities. There is just WAY too much continuous content at the conference, especially with the recent (last few years) introduction of sessions from 11:30 – 1, so that you can't even take some time to have lunch with your colleagues and/or visit the exhibits. If you like this no-conflict feature, please be sure to let SLA know that in your conference evaluations.

Toronto will also of course be the first annual conference after the "under-one-roof" experience in Nashville. While I sometimes did feel like a pheasant under glass, I think I'll miss the convenience as I speed across Toronto streets from one session or suite to another.

As a good Maryland Chapter member I must add a reminder that 2006 in Baltimore should already be a line item in all your budgets! Note that Baltimore's nicknames are "Charm City" and "The City that Reads"!

Finally, if any of you would like to see your name in print, for the first or umpteenth time, we welcome article submissions. Remember, we have subscribers across the globe! I'd be very happy to meet with you in Toronto, just leave me a message on the board. See you all there.❖

Susan Fingerman  
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## **Chemistry/Engineering/Materials Research & Mfg/Sci-Tech/Aerospace Conference Sessions**

### **Saturday, June 4<sup>th</sup>**

8:00 AM – 5:00 PM Chemistry for the Non-Chemist \$ – Chemistry Division

6:00 PM – 8:00PM No-host Dinner for Early Arrivals – Chemistry Division

### **Sunday, June 5<sup>th</sup>**

7:30 AM – 9:00 AM - Academic Librarians Roundtable \$ - Chemistry, Sci-Tech and others

8:00 AM – 12:00 noon – Systems Thinking for Librarians Part 1 of 2: Basics and Personal Approaches \$ - Engineering and others

9:30 AM – 11:00 AM

Sci-Tech Newcomer's Brunch – Sci-Tech

Biomedical and Life Sciences Vendor Roundtable and Breakfast/Chemistry and others

11:00 AM - 1:00 PM - Chemistry Division : New Members Brunch

11:30 AM - 1:00 PM Vendor Update: Document Delivery for Science & Technology - Sci-Tech, Engineering

1:00 PM – 5:00 PM

Systems Thinking for Librarians Part 2 of 2: Understanding Organizational Influences \$ - Engineering and others

Chemical Information Sources, Requests, and Reference \$ - Chemistry

1:30 PM - 3:00 PM - Sci-Tech Outgoing Board Meeting

2:00 PM – 4:00 PM Engineering Division and Aerospace Section Outgoing Board Meeting

6:00 PM - 8:00 PM - Chemistry Division Board of Directors Meeting

### **Monday, June 6<sup>th</sup>**

7:30 AM - 9:00 AM

Chemistry Division Corporate Roundtable Breakfast \$

Sci-Tech Division Business Meeting & Breakfast \$

Aerospace Section of the Engineering Division Business Meeting & Award Breakfast \$

11:30 AM - 1:00 PM

Computer Science Roundtable – Sci-Tech and others

Standards Roundtable – Sci-Tech, Engineering

Chemistry, Sci-Tech & PAM Poster Session: Better Understanding Your Users.

Who Owns Scientific Knowledge and Who Deserves To: Are Patents an Incentive for Innovation or an Obstacle to Further Development? – Sci-Tech and others

3:30 PM - 5:00 PM

Cooperating to Survive & Flourish in the Modern Sci-Tech Library - Sci-Tech

Technology Petting Zoo – Sci-Tech, Engineering and others

Chemistry Vendor Roundtable

8:00 PM - 11:00 PM

Science Fiction, the Future, and Libraries: Engineering and Sci-Tech Division Open House  
and others

Chemistry Division Open House

**Tuesday, June 7th**

7:00 AM - 8:30 AM

Annual Diversity Breakfast — Age and Diversity \$ - Sci-Tech and others

Engineering Division Business Meeting & Awards Breakfast \$

Chemistry Division Business Meeting and Breakfast \$

11:30 AM - 1:00 PM

The Science of Hockey – Sci-Tech

Finding Properties Information – Chemistry, Engineering, Materials Research &  
Manufacturing Division

1:30 PM – 3:00 PM – Open Access: Evaluating Quality and Participation – Sci-Tech, Chemistry,  
Engineering

6:30 PM – 8:30 PM – All Sciences & Engineering Reception at the SteamWhistle Brewery \$ –  
Sci-Tech, Chemistry, Engineering

**Wednesday, June 8th**

7:00 AM – 8:30 AM

Chemistry Division Board of Directors Meeting

Sci-Tech Division Incoming Board Meeting

Engineering Division and Aerospace Section Incoming Board Meeting

11:30 AM – 1:00 PM

Green Chemistry – Chemistry and others

Science & Engineering Resources 101: Focus on Technical Reports, Patents, Standards and  
Codes – Sci-Tech and Engineering

1:30 PM - 3:00 PM

Winner's Circle of Best Science Websites – Sci-Tech, Chemistry and others

Self-Archiving, Information Repositories, and Knowledge Management: what can different  
types of libraries learn from each other? – Sci-Tech, Aerospace Section, Engineering

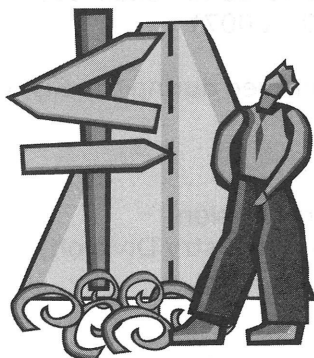
4:00 PM – 6:00 PM – Sci-Tech and Engineering Happy Hour – Sci-Tech, Engineering

**Thursday, June 9th**

10:00 AM – 12:00 noon – Tour of the Merril Collection of Science Fiction, Speculation, and  
Fantasy – Sci-Tech, Engineering and others

Please be sure to read each Divisions detailed conference listing.

Susan Fingerman





## Chemistry Division

Dawn French, Chair



The Chemistry Division is concerned with chemistry and chemical technology, and the economics, educational advances, and information handling of developments in the field of chemistry and related subjects.

Here we are in the middle of spring, and speaking of spring, have you registered for SLA 2005 in Toronto? Hurry, because you don't want to miss out. Make your travel arrangements and pack your bags to attend the 2005 Conference in Toronto! We have some really exciting sessions and activities planned for the Division, including sessions on Finding Properties Information, Green Chemistry, and Open Access. Division activities include a Division Suite, the All Sciences Reception at the Steam Whistle Brewery (<http://www.steamwhistle.ca>), and the No-Host Dinner at Joe Baladi's Italian Restaurant (<http://www.toronto.com/infosite/146694/>). See the complete listing of our sessions and activities in this issue. The SLA website has Toronto travel information at <http://www.sla.org/toronto/2005/>.

SLA is moving its fiscal year to match the calendar year. In order to do so, SLA Headquarters has recommended that Division and Chapter officers in office as of July 1, 2005 hold that office until December 30, 2006. Below will be the timeline of officer terms for the Chemistry Division:

Ted Baldwin	Chair	July 1, 2005 to Dec. 31, 2006
Dawn French	Past Chair	July 1, 2005 to Dec. 31, 2006
New Chair Elect		July 1, 2005 to Dec. 31, 2006
Kiem-Dung Ta	Treasurer	July 1, 2005 to Dec. 31, 2006
New Secretary		July 1, 2005 to Dec. 31, 2007

As you can see, we have some voting to do, so be sure to attend the Division Annual Business meeting on Tuesday, June 7<sup>th</sup> from 7:30 – 9:00 AM. Come meet fellow Division members and learn about Division activities. See below for the list of nominees for Chair-Elect and Secretary.

Also as you can see, my time as Chair is winding down. Thank you to everyone who has helped me along the way. Being Chair has given me a wonderful chance to work with and learn from some really great people and to meet new colleagues and friends. I look forward to working with all of you in the future and to seeing you all in Toronto! ♦

Dawn French  
Dawn.French@milleniumchem.com

♦♦♦♦♦

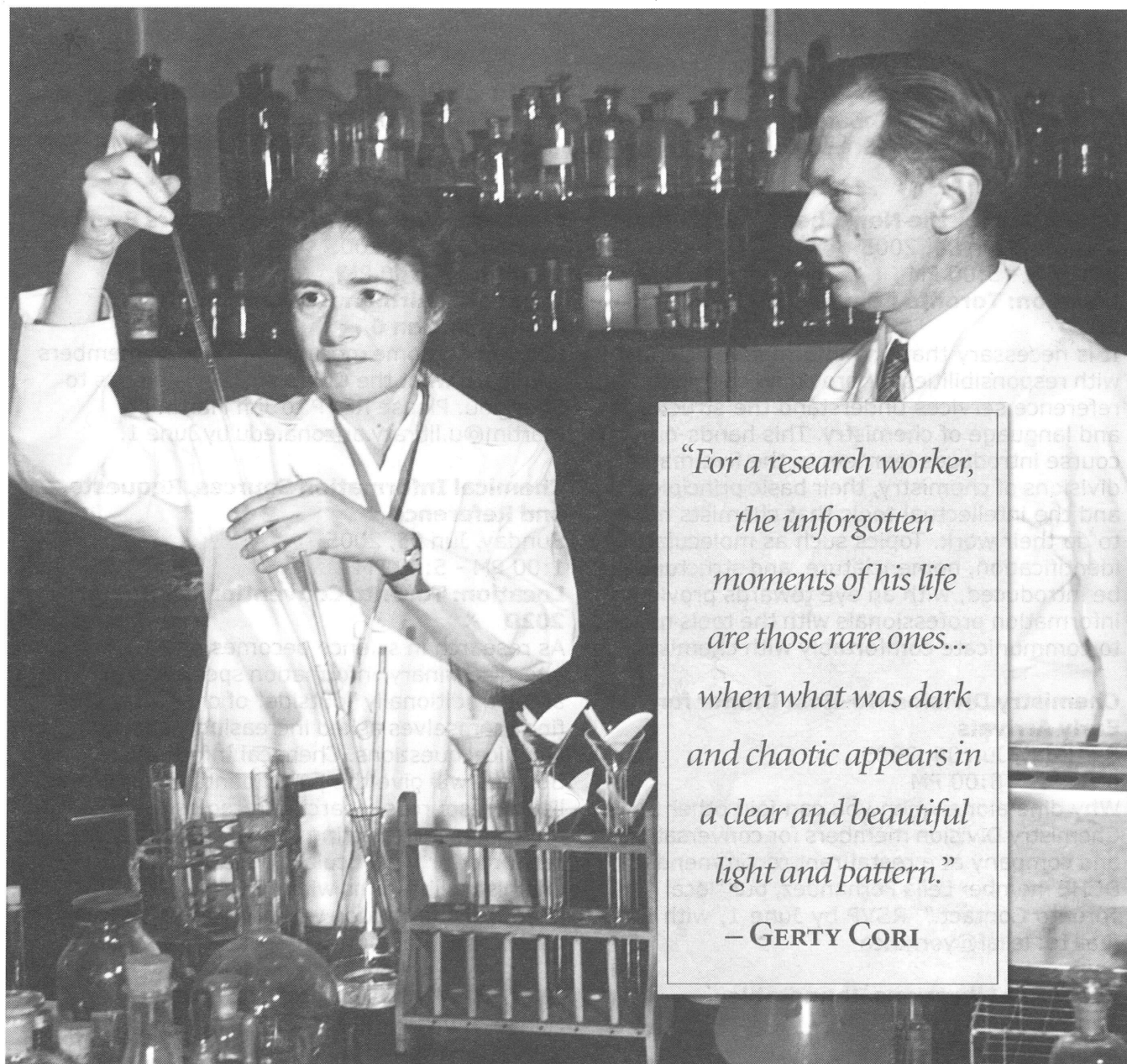
### The SLA Chemistry Division Nominating Committee is pleased to announce the following slate for 2005:

Chair-Elect: A. Ben Wagner (term 2005-2006; Chair 2007)  
Secretary: David R. Peck (term 2005-2007)

The slate will be formally accepted and approved during the SLA Chemistry Division Business Meeting at the SLA Conference in Toronto.

Submitted by,  
Nominating Committee, SLA Chemistry Division  
Marion Peters, Chair (Past Chair, SLA Chemistry Division)  
Denise Callihan  
Susanne Redalje





*"For a research worker,  
the unforgotten  
moments of his life  
are those rare ones...  
when what was dark  
and chaotic appears in  
a clear and beautiful  
light and pattern."*

— GERTY CORI

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In September 2004, ACS dedicated a National Historic Chemical Landmark honoring the research of Carl and Gerty Cori on the metabolism of carbohydrates at The Washington University School of Medicine in St. Louis, Mo.



## Chemistry Division's Schedule for the 2005 Annual Conference

Saturday, Jun 04, 2005 - Wednesday, Jun 08, 2005

### Chemistry for the Non-Chemist Librarian

Saturday, Jun 04, 2005

8:00 AM - 5:00 PM

**Location: Toronto Convention Ctr Room: 202D**

It is necessary that any information scientist with responsibilities for providing chemistry reference services understand the structure and language of chemistry. This hands-on course introduces learners to the five major divisions of chemistry, their basic principles, and the intellectual tools that chemists need to do their work. Topics such as molecular identification, nomenclature, and structure will be introduced, with an eye towards providing information professionals with the tools needed to communicate comfortably with chemists.

### Chemistry Division No-Host Dinner for Early Arrivals

Saturday, Jun 04, 2005

6:00 PM - 8:00 PM

Why dine alone when you can join other SLA Chemistry Division members for conversation and company at a restaurant recommended by DCHE member Leila Fernandez, our "local Toronto Contact." RSVP by June 1, with an e-mail to: leilaf@yorku.ca

### Academic Librarians Roundtable

Sunday, Jun 05, 2005

7:30 AM - 9:00 AM

**Location: Toronto Convention Ctr Room: 104C**

This is a time when academic librarians can discuss issues of interest. A continental breakfast will be served.

### Biomedical and Life Sciences Vendor Roundtable and Breakfast

Sunday, Jun 05, 2005

9:30 AM - 11:00 AM

**Location: Toronto Convention Ctr Room: 206E**

Join us for breakfast while listening to the latest updates from vendors of interest to the biomedical and life sciences. Vendors presenting will be BioOne, Wiley (for their Cochrane Library), ISI (for Web of Science and BIOSIS), and Elsevier (for Scopus).

### Chemistry Division : New Members Brunch

Sunday, Jun 05, 2005

11:00 AM - 1:00 PM

**Location: Fairmont Royal York Room: Confederation 6**

Newcomers come meet fellow Division members and learn what the Chemistry Division has to offer you. Please RSVP to Jim Martin at martinj@u.library.arizona.edu by June 1.

### Chemical Information Sources, Requests, and Reference

Sunday, Jun 05, 2005

1:00 PM - 5:00 PM

**Location: Toronto Convention Ctr Room: 202D**

As research in science becomes more interdisciplinary, information specialists in areas traditionally "outside" of chemistry may find themselves asked increasingly specific, chemical questions. Chemical Information Sources will give the participants an extensive list of resources, search strategies, and guidelines for selecting the most appropriate resource for a particular question. Non-chemistry librarians with a need to find chemical information will also find these aspects of the course useful.

### INFO-EXPO Networking Reception

Sunday, Jun 05, 2005

4:00 PM - 6:00 PM

**Location: SLA INFO-EXPO Hall**

SLA Exhibitors want to see you in the SLA INFO-EXPO Hall. Come and enjoy the refreshments and activities in the SLA INFO-EXPO Hall. Wine Bars are sponsored by the Thomson Businesses.

### Chemistry Division Board of Directors Meeting

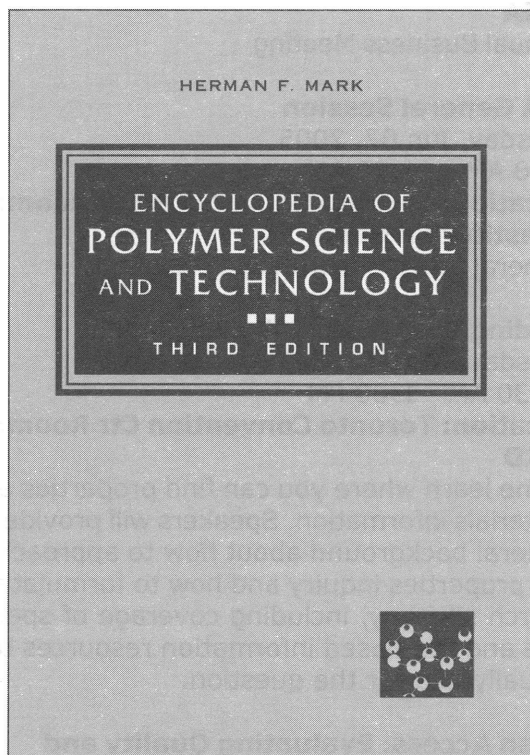
Sunday, Jun 05, 2005

6:00 PM - 8:00 PM

**Location: Fairmont Royal York Room: York**

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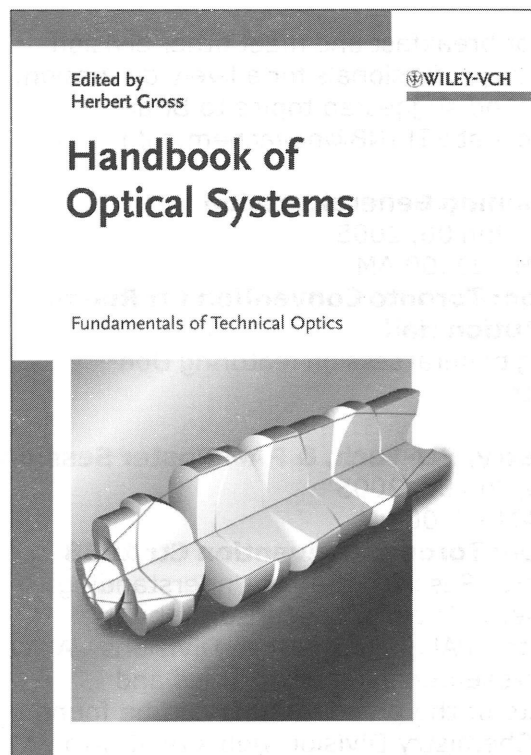
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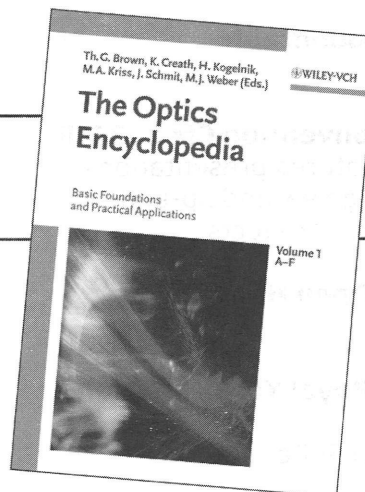


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### **Chemistry Division Corporate Roundtable Breakfast**

Monday, Jun 06, 2005  
7:30 AM - 9:00 AM

**Location: Toronto Convention Ctr Room: 206A**

Come for breakfast and meet other division corporate professionals for a lively discussion. Please send suggested topics to Brian Steinmetz at [STEINB@novachem.com](mailto:STEINB@novachem.com).

### **SLA Opening General Session**

Monday, Jun 06, 2005  
9:30 AM - 11:00 AM

**Location: Toronto Convention Ctr Room: Constitution Hall**

Opening general session featuring Don Tapscott

### **Chemistry, Sci-Tech, & PAM Poster Session**

Monday, Jun 06, 2005  
11:30 AM - 1:00 PM

**Location: Toronto Convention Ctr 103B**

The Poster Session, "Better Understanding Your Users," is being cosponsored by the Chemistry, PAM, and Sci-Tech Divisions. A list of the presenters along with titles and abstracts of the presentations can be found on the Chemistry Division web site at <http://www.sla.org/division/dche/2005/poster.htm>.

### **INFO-EXPO Networking**

Monday, Jun 06, 2005  
1:30 PM - 3:00 PM

**Location: SLA INFO-EXPO Hall**

Special non-conflict hours for you to learn more about SLA exhibitors. International refreshments will be served. See a unique Greek Statue located right center of hall.

### **Chemistry Vendor Roundtable**

Monday, Jun 06, 2005  
3:30 PM - 5:00 PM

**Location: Toronto Convention Ctr 203A-B**

This annual session features presentations from vendors regarding new and up-and-coming releases to their products.

### **Chemistry Division Open House**

Monday, Jun 06, 2005  
8:00 PM - 10:00 PM

**Location: Fairmont Royal York Division Suite**

Open House in Division Suite

### **Chemistry Division Business Meeting and Breakfast**

Tuesday, Jun 07, 2005  
7:30 AM - 9:00 AM

**Location: Toronto Convention Ctr Room: 206A**

Annual Business Meeting

### **SLA General Session**

Tuesday, Jun 07, 2005  
9:30 AM - 11:00 AM

**Location: Toronto Convention Ctr Room: Constitution Hall**

General Session featuring Bill Buxton.

### **Finding Properties Information**

Tuesday, Jun 07, 2005  
11:30 AM - 1:00 PM

**Location: Toronto Convention Ctr Room: 201D**

Come learn where you can find properties and materials information. Speakers will provide general background about how to approach the properties inquiry and how to formulate a search strategy, including coverage of specific free and fee-based information resources to actually answer the question.

### **Open Access: Evaluating Quality and Participation**

Tuesday, Jun 07, 2005  
1:30 PM - 3:00 PM

**Location: Toronto Convention Ctr Room: 205A-B**

OK, we've gotten with the program, and we know what Open Access is. Let's take the next step. How do OA journals perform with citation analysis? How does self-archiving affect readership? How do publishers determine their business models? What are the most effective ways to engage faculty attention and participation in OA publishing?

### **INFO-EXPO Networking**

Tuesday, Jun 07, 2005  
3:30 PM - 5:00 PM

**Location: SLA INFO-EXPO Hall**

This is your last chance for exclusive non-conflict time in the SLA INFO-EXPO Hall. Ice Cream Bar refreshment will be available.

### **SLA Annual Business Meeting**

Tuesday, Jun 07, 2005  
5:15 PM - 6:15 PM

**Location: Toronto Convention Ctr 105 - 107**  
Annual Business Meeting

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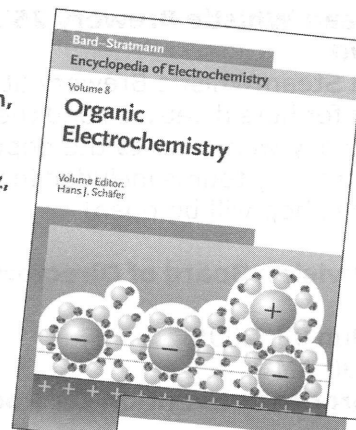
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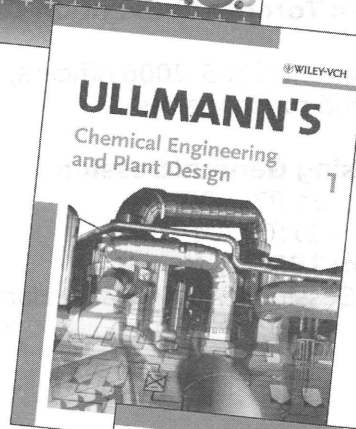
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## ULLMANN'S CHEMICAL ENGINEERING AND PLANT DESIGN

Offering the same high-quality information contained in the very latest edition of the world-renowned, full-sized 40-volume *Ullmann's Encyclopedia of Industrial Chemistry*, this compact, subject-oriented, 2-volume handbook provides smaller institutions and companies with affordable access to *Ullmann's* unparalleled coverage. *Ullmann's Chemical Engineering and Plant Design* comprises a much-needed one-stop resource for the plant design engineering community.

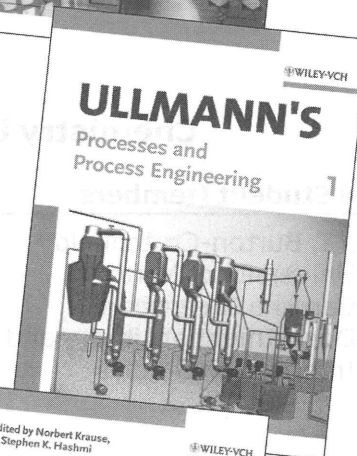
2 Volumes • 3-527-31111-4 • Cloth • 1,399 pp. • \$525.00 US/\$682.99 CAN



## ULLMANN'S PROCESSES AND PROCESS ENGINEERING

Also based on the latest edition of the 40-volume *Ullmann's Encyclopedia of Industrial Chemistry*, this 3-volume handbook is tailor-made to serve as the most convenient source of information for chemical engineers, chemists, patent attorneys, marketing managers, and others involved in the chemical process industry.

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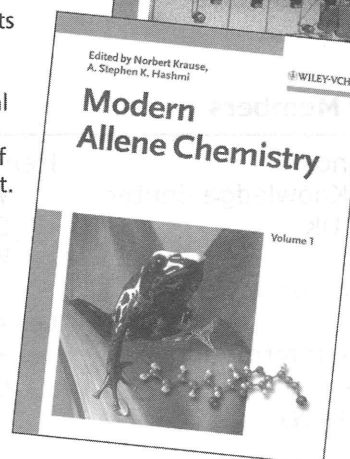
## MODERN ALLENE CHEMISTRY

Norbert Krause and A. Stephen K. Hashmi

This two-volume handbook covers all the important aspects and facts related to the important topic of allene chemistry. The treatment covers the whole range from the synthesis and classification, via reactions, right up to possible applications in the synthesis of natural products and drugs. With their contributions, an international team of outstanding authors highlight the multifarious uses and classes of allenes, making this an indispensable work for every organic chemist.

2 Volumes • 3-527-30671-4 • Cloth • 1,159 pp. • \$520.00 US/\$675.99 CAN

Date of Publication: 12/04



Available through your vendor.

Online editions available at [www.interscience.wiley.com](http://www.interscience.wiley.com)

### All Sciences & Engineering Reception at the SteamWhistle Brewery

Tuesday, Jun 07, 2005

6:30 PM - 8:30 PM

**Location: SteamWhistle Brewery 255 Bremner Blvd**

Join us at the SteamWhistle Brewery at 255 Bremner Blvd for hors d'oeuvres and the local brew. It's an easy walk over to the popular landmark. A brewery tour is included in your ticket, and the shop will be open!

### Chemistry Division Board of Directors Meeting

Wednesday, Jun 08, 2005

7:00 AM - 8:30 AM

**Location: Toronto Convention Ctr Room: 206A**

With incoming 2005-2006 officers, committee chairs, and functionaries

### SLA Closing General Session

Tuesday, Jun 07, 2005

9:00 AM - 11:00 AM

**Location: TBD**

General Session featuring Gary Hamel

### Green Chemistry

Wednesday, Jun 08, 2005

11:30 AM - 1:00 PM

**Location: Toronto Convention Ctr Room: 202C**

To paraphrase Kermit the Frog, what does it mean for chemistry to be green? Will we leave the generations to come with a slag heap of hazardous waste or a wealth of renewable resources? Our panel of practitioners will show us the way. Bring your lunch and join us for this informative session.

### Winner's Circle of Best Science Websites

Wednesday, Jun 08, 2005

1:30 PM - 3:00 PM

**Location: Toronto Convention Ctr Room: 202B**

Members of SLA's science related divisions will highlight the best new, recently revised and 'must see' Web sites in their respective subject areas.

◆◆◆◆

## Chemistry Division Welcomes These New Members

### New Student Members

John T. Burton-Crutchfield  
University of North  
Carolina Greensboro  
Department of Library and  
Information Studies

Kristin Hoffmann  
University of Victoria  
British Columbia  
McPherson Library

Emily C. Lanning  
Raleigh NC

Olivia B. Sparks  
Chandler AZ

### Other New Members

Hector Bolanos  
Scope eKnowledge Center  
London, UK

Irene S. Laursen  
Wellesley College  
Science Library  
Wellesley MA

Lee A. Pederson  
Brown University  
Sciences Library  
Providence RI

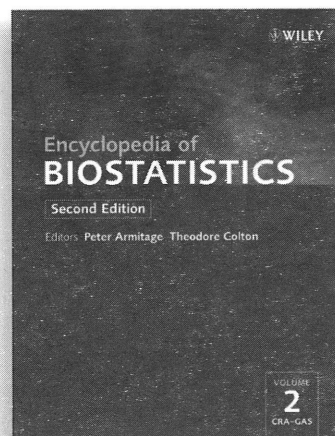
Dr. Rengin H. Konuk  
Ethicon  
Scientific Information  
Services  
Somerville NJ

Lesley J. Maw  
Royal Society of Chemistry  
Cambridge, UK

A. Cynthia Weber  
Specialty Minerals  
Research Library  
Bethlehem PA

# Need an authoritative resource?

New references from Wiley essential for the biological and behavioral sciences.



0-470-84907-X • Cloth • 6,100 pp. • April 2005

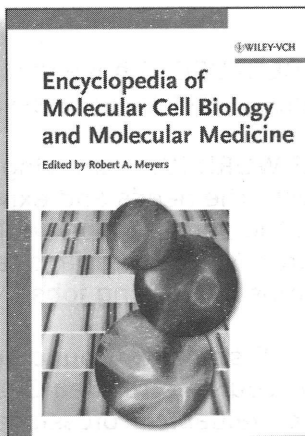
#### Praise for the First Edition:

"A resource beyond compare . . . nothing in biostatistics is left uncovered . . . unsurpassed in quality and quantity."  
—*British Medical Journal*

"An unsurpassed addition to the statistical literature. . . The coverage is breathtaking."  
—*International Journal of Epidemiology*

A landmark in scientific publishing, revised and expanded to provide up-to-date material on bioinformatics, statistical genetics, and more.

Special Prepub. Price:  
\$2,995.00 US/\$3,893.99 CAN/£1,695.00 UK  
(until 3/31/05; afterwards, \$3,725 US)



3-527-30542-4 • Cloth • 9,600 pp.  
September 2005

#### Praise for the First Edition:

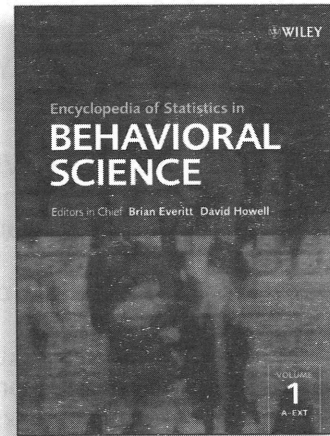
"This series is a classic..."  
—*Trends in Molecular Medicine*  
*/Molecular Medicine Today*

"...an authoritative reference source of the highest quality. ... It is extremely well written and well illustrated..."  
—*American Reference Books Annual*  
(*Library & Information Science Annual*)

"This series can be recommended without hesitation to a broad readership including students and qualified researchers... articles... set-up facilitates easy reading and rapid understanding... overwhelming amount of valuable data."  
—*Molecular Biology Reports*

The *Second Edition* of this highly acclaimed, sixteen-volume encyclopedia now contains 150 new articles—out of approximately 425 articles in all—and extended coverage of cell biology. It is thus the most comprehensive and most detailed treatment of molecular biology, cell biology, and molecular medicine available today—designed in collaboration with a founding board of 10 Nobel laureates.

\$5,920.00 US/\$7,695.99 CAN/£3,200.00 UK



0-470-86080-4 • Cloth • 2,706 pp.  
May 2005

The *Encyclopedia of Statistics in Behavioral Science* encapsulates the refined statistical concepts and techniques that are essential to the advancement of psychology and its ever-widening fields of application. More than 600 articles and 400 contributions, from eminent psychologists and statisticians worldwide, provide comprehensive accounts of statistical methodologies in the behavioral sciences, highlighting new techniques and developments from the past decade along with up-to-date coverage of developing fields, including neuroscience, behavioral genetics, decision learning, and cognitive science. The emphasis is on practical, non-technical methods with wide-ranging application. The text is extensively cross-referenced to ensure fast and accurate access to available information.

Special Prepub. Price  
\$1,250.00 US/\$1,624.99 CAN/£695.00 UK  
(until 6/30/05; afterwards, \$1,495 US)

 **WILEY**  
wiley.com



## 2005 Marion Sparks Award Winner Profile

NAME: Hilary Davis

OCCUPATION: North Carolina State University Libraries Fellow and Collection Manager for Physical and Mathematical Sciences

IF I WEREN'T IN MY CURRENT POSITION, I'D BE: Making artisan breads, studying plant evolution in the Caribbean, serving as talent agent for my cat who does dazzling parlor tricks, or participating in the Amazing Race

I DECIDED TO GO TO LIBRARY SCHOOL BECAUSE: I have that basic impulse to help people find "stuff" and, for me, it is exhilarating to play a part in a profession that is rapidly evolving.

THE ONE THING I REALLY LOVE TO DO AT WORK IS: Removing barriers to learning and scholarship by synthesizing innovation with the needs and expectations of our researchers and students. I'm learning a great deal from the people I work with at NCSU Libraries. They are excited about the profession; the pride that NCSU Librarians take in our collective accomplishments makes this one of the most rewarding jobs I've ever had.

I AM A MEMBER OF SLA BECAUSE: As a LIS student, I found genuine respect and overwhelming support from my early mentors in the St. Louis Metro Area Chapter of SLA. They got me involved in the chapter and exposed me to valuable professional development opportunities and lifelong friendships.

MY FAVORITE WEBSITE: Angiosperm Phylogeny Website (<http://www.mobot.org/MOBOT/research/APweb/>)

BEST VACATION I'VE EVER TAKEN: A working vacation is more like it – I collected plants over a summer in the Dominican Republic, Puerto Rico, Jamaica and Cuba. Incredibly kind, trustworthy new friends made each trip fun and successful.

LAST GOOD BOOK I READ: "Out of the Flames", Lawrence and Nancy Goldstone

FAVORITE ACTIVITY: Pottery, hosting dinner parties for friends

PETS: Pablo, Kali, Amuna (all brilliant and beautiful cats) ❖

### ◆◆◆◆◆ 2005 Marion E. Sparks Award for Professional Development Application Essay

Hilary Davis

As library professionals and lifelong students, we have an obligation to recognize and seize opportunities that enhance the dynamic nature of information and help information seekers tap into, evaluate and fully exploit the dimensional quality of knowledge and learning. As a budding librarian serving as Collection Manager for Physical and Mathematical Sciences, seeking out and following through with professional development opportunities is key to meeting this obligation.

A primary challenge for librarians to serve as partners in higher education presents a pivotal opportunity to expand the traditional role of librarians. To this end, SLA is central in educating library professionals so we can inspire confidence in the clients we serve and remove barriers to learning and scholarship. Opportunities at the SLA Conference to learn about chemistry for non-chemistry librarians and cross-disciplinary topics such as drug-delivery technologies will enable me to more effectively and competently communicate with and remove barriers for STM researchers and students.



Rowley (2003) asserts that librarians are responsible for aligning the organization and its staff with its marketplace; in essence, enabling the organization and its members to make sense of themselves in the context of their environment. To better fulfill this role, we need to develop the power to persuade, the ability to think more strategically about the entire organization, and we need to develop more profound leadership skills. Collaborating with colleagues and mentors at the SLA Conference will undoubtedly illustrate innovative ways to promote library services while providing me with insights on how to be a more integral part of top-level decision-making, and how to positively influence the way my organization behaves, learns and succeeds.

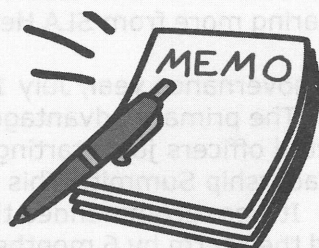
Opportunities to learn about current research initiatives in science librarianship are essential to figuring out how to stay relevant in the life of science researchers and students. For example, sessions at the SLA Conference on learning statistical analysis and interpretation techniques for understanding library user experiences can help to better inform collection development decisions. I also look forward to exploring and sharing ideas on how users intersect with libraries at the Chemistry, Sci-Tech, Physics, Astronomy and Math poster session.

SLA provides critical leverage and guidance in terms of community awareness, planning for the future, managing our collections in the digital age, and understanding legal issues involving copyright and intellectual property rights. Workshops at the SLA Conference on digital licensing agreements, negotiation skills, and forums on open access issues and best practices will empower me to better shape scholarly communication in a globally accessible format that enables and inspires its users. ❖

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Rowley, Jennifer. 2003. Knowledge management - the new librarianship? From the custodians of history to gatekeepers to the future. *Library Management*, vol. 24 (8/9): 433-440

♦♦♦♦♦



## Help Wanted

### Sci-Tech News – Two Positions

#### **Advertising Manager**

The Advertising Manager solicits advertisements and maintains regular contact with participating businesses. Coordinates and manages all ads for each issue, working closely with STN Editor, Business Manager, and Editorial and Advisory Boards.

#### **Subscription Manager**

The Subscription Manager maintains records of subscribers, obtains and verifies mailing labels for subscribers from Association HQ and forwards to printer. Works closely with STN Editor.

Please contact Susan Fingerman if interested:  
susan.fingerman@jhuapl.edu or  
443-778-4301

## Engineering Division

Mary Steiner, Chair



The objectives of the Engineering Division are to provide an association for those having an interest in library and information science as they apply to engineering and the physical sciences and to promote the use of materials and knowledge for the benefit of libraries and other educational organizations

In late January, Marcia Rodney and I participated in the SLA Leadership Summit in Tampa, representing the Engineering Division and Aerospace Section. In February, I posted a recap of some of the meeting highlights to the SLA-ENG discussion list, but for those of you who missed that, following are some selected excerpts that may be of interest. Note that the Leadership Summit is evolving into a professional development opportunity for all members of SLA, not merely for the Division and Chapter leaders, so I would encourage you to consider attending future meetings. It's also a great reason to head somewhere warm for those of us stuck in cold places in the middle of Winter!

Approximately 250 attendees enjoyed an inspiring talk given by keynote speaker Gary Heil from the Center for Innovative Leadership ([www.cfil.com](http://www.cfil.com)). We had an opportunity to hear from a number of candidates running for the SLA Board, and the winners have now been announced at <http://www.sla.org/content/SLA/governance/bodsection/0405bodcand/0405bodelect.cfm>. Various association-level award winners were also recognized, as detailed at <http://www.sla.org/content/SLA/awardsrecognition/awardsrecipients/index.cfm>.

SLA is developing an online learning environment which will provide SLA members with many opportunities for education and professional development, such as earning advanced degrees from participating partner universities, continuing education courses, virtual seminars, professional coaching, leadership/management training, and more. Chapters and Divisions may have a presence in this environment to offer their own online learning programs, and can link to/from their own web sites. We'll be hearing more from SLA Headquarters about this.

The Association is moving its current governance year, July 1 – June 30, to coincide with the fiscal year, January 1 – December 31. The primary advantage is for financial reporting reasons. Another advantage is that newly elected officers just starting out will receive valuable training early in their terms at the January Leadership Summit. This change will take effect starting with January 1 – December 31, 2007. It was recommended that Division officers normally serving through June 30, 2006 extend their term by 6 months to end December 31, 2006 instead. The SLA Annual Conference will continue to be held in the June timeframe as per usual.

The SLA association-level Board introduced a new streamlined way of running the board meetings and their regular business throughout the year. The Board and invited speakers proceed through the agenda, with visitors able to offer comments and ask questions during the "Public Discussion Forum". The Board also wants to make sure there is more transparency to the general membership of what the Board and Headquarters do.

The Board of Directors referred a proposal for dues restructuring, discussed in the Joint Chapter/Division Cabinet, back to the Finance Committee for reworking. Note that any dues restructuring is a Board level decision, not a general membership decision. However, the Board is sincerely interested in members' feedback about any dues restructuring.

The Finance Committee moved and the Board passed that two votes on SLA Bylaws be taken by the membership at the Toronto conference: 1) to allow electronic voting of the membership (it seems in consultation with counsel this may now be possible at the Association level), and 2) to remove the 12% cap on dues increases.

Included in this issue of Sci-Tech News is a combined Toronto conference "dance card", listing the programs for the Divisions that contribute to this newsletter. We hope it will be useful to you, as there are many exciting programs to keep track of. Remember also the handy web site the Toronto Chapter has put together, which includes tips regarding international travel: <http://www.sla.org/toronto/2005/>.

Planning for the 2006 Annual Conference in Baltimore has begun. Starting with this particular conference, SLA is forging ahead with new formats and more strategic programming. For example, the opening general session will be Sunday evening, the SLA Annual Business Meeting will be Tuesday, and the closing general session will be Wednesday midday. Division partnering is strongly encouraged, particularly amongst divisions that may not traditionally pair up, so as to foster innovative new programming. The conference theme is "Where Tradition and Transformation Converge". For more information, or to suggest ideas for the conference, please contact Division Chair-Elect Kathy Nordhaus ([k-nordhaus@raytheon.com](mailto:k-nordhaus@raytheon.com)) or Aerospace Section Chair-Elect Marcia Rodney ([mrodney@ball.com](mailto:mrodney@ball.com)).

Membership Chair Cheryl Hansen has been keeping us informed of new members in the division, and this issue features Teresa Novitski. We'll have an opportunity to meet Teresa in Toronto.

Cheryl also chairs this year's Nominating Committee (herself, Heidi Porth, Sara Tompson, and Stephanie White), which recently oversaw the Spring election of Division Chair-Elect and Treasurer. Many thanks go to the committee and the candidates who agreed to run for positions. The results are in—congratulations to Don Welch for Chair-Elect and Suzanne Cristina for Treasurer! Because of the change in SLA's fiscal year as noted above, Don will serve as Chair-Elect starting at the Toronto conference and then through the end of 2006, moving on to Chair for 2007 and Past Chair for 2008. Suzanne's term as Treasurer will also begin in Toronto and go through the end of 2007.

Since this is my final column in Sci-Tech News as Chair, I would like take this opportunity to thank the entire Engineering Division Advisory Board for all their hard work and dedication this past year—particularly Dave Hook, Sara Davis, Randy Reichardt, and Michael White for all their help with conference planning and fundraising, Jeanne Trimble for completely overhauling our web site, Janifer Holt for overseeing our awards programs, and Cheryl Hansen for her wise guidance in many areas. It has been a rewarding experience to serve the SLA Engineering Division, and I look forward to seeing many of you soon in Toronto.❖

With warm regards,

Mary  
[maryds@seas.upenn.edu](mailto:maryds@seas.upenn.edu)  
(215) 898-8170  
<http://www.sla.org/division/deng/>

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### **Division Archivist Needed**

Have you thought about becoming more involved with the Engineering Division? Looking for a way to contribute in a flexible and creative way? Think about volunteering for Division Archivist! We need someone who will review the Engineering Division's current archives, solicit and organize new archival material, and select interesting, historical material to post to the web site. Ideally, we'd like to find someone willing to make a multiyear commitment. If you are interested, please contact Division Chair-Elect Kathy Nordhaus ([k-nordhaus@raytheon.com](mailto:k-nordhaus@raytheon.com)) or Division Chair Mary Steiner ([maryds@seas.upenn.edu](mailto:maryds@seas.upenn.edu)) for more information.❖

## Engineering Division Toronto 2005 Programming

### Sunday, June 5, 2005

8:00am - 12:00noon

#### **Systems Thinking for Librarians Part 1 of 2: Basics and Personal Approaches**

Ticketed Event #335 Price: (half day, Part 1 only)  
\$199 mbr/\$299 nmbr (whole day, Parts 1 and 2)  
\$299 mbr/\$399 nmbr

*What is systems thinking? How does it impact a manager's interaction with all levels of their organization, including direct reports and exterior clients? How does acceptance of systems thinking change an individual's work decisions and philosophies? (Registrants for both Parts 1 and 2 receive discounted rate + lunch.)*

**Presented by:** Engineering Division, Biomedical & Life Sciences Division

1:00pm - 5:00pm

#### **Systems Thinking for Librarians Part 2 of 2: Understanding Organizational Influences**

Ticketed Event #360 Price: (half day, Part 2 only)  
\$199 mbr/\$299 nmbr (whole day, Parts 1 and 2)  
\$299 mbr/\$399 nmbr

*How can systems thinking tools and tenets affect the strategic planning process? How does the library interact with its organization? Learn how to respond more strategically to the goals and work of your organization. (Registrants for both Parts 1 and 2 receive discounted rate + lunch.)*

**Presented by:** Engineering Division, Biomedical & Life Sciences Division

11:30am - 1:00pm

#### **Vendor Update: Document Delivery for Science & Technology**

*Hear about new services from vendors of document delivery services who emphasize their scientific and technical holdings.*

**Presented by:** Science & Technology Division, Engineering Division

2:00pm - 4:00pm

#### **Engineering Division and Aerospace Section Outgoing Board Meeting**

*All 2004-2005 Engineering Division Executive and Advisory Board members are required to attend this wrap-up meeting for the Division year. Other Division members are welcome and encouraged to attend!*

**Presented by:** Engineering Division, Aerospace Section of the Engineering Division  
**Sponsored by:** Springer Science + Business Media

4:00pm - 6:00pm

#### **INFO-EXPO Networking Reception**

*Official kick-off celebration to the exhibit hall (note the exhibit hall is open 12:00noon-6:00pm so you can visit anytime in the afternoon). An opportunity to visit vendors, find out about the latest products, and thank our sponsors.*

### Monday, June 6, 2005

7:30am - 9:00am

#### **Aerospace Section of the Engineering Division Business Meeting & Award Breakfast**

Ticketed Event #410 Price: \$5

*Join your Section colleagues for our annual business meeting and presentation of the George Mandel Memorial Award, sponsored by AIAA and Dr. David Mandel.*

**Presented by:** Aerospace Section of the Engineering Division

**Sponsored by:** AIAA

9:30am - 11:00am

#### **Opening General Session**

*Speaker Dan Tapscott, President, New Paradigm Learning Corporation.*

11:30am - 1:00pm

#### **Standards Roundtable**

*Join us for an update on what is happening in the standards world, the latest vendor news, plus a question and answer session. Learn about vendors' plans for web access to standards. Find out the latest information and give feedback to Standards Developing Organizations.*

**Presented by:** Engineering Division, Science & Technology Division

**Sponsored by:** American Society of Civil Engineers, ASTM International, Information Handling Services

1:30pm - 3:00pm

#### **INFO-EXPO Networking**

*An opportunity to visit vendors, find out about the latest products, and thank our sponsors (note the exhibit hall is open 10:00am-5:00pm).*

3:30pm - 5:00pm

#### **Technology Petting Zoo**

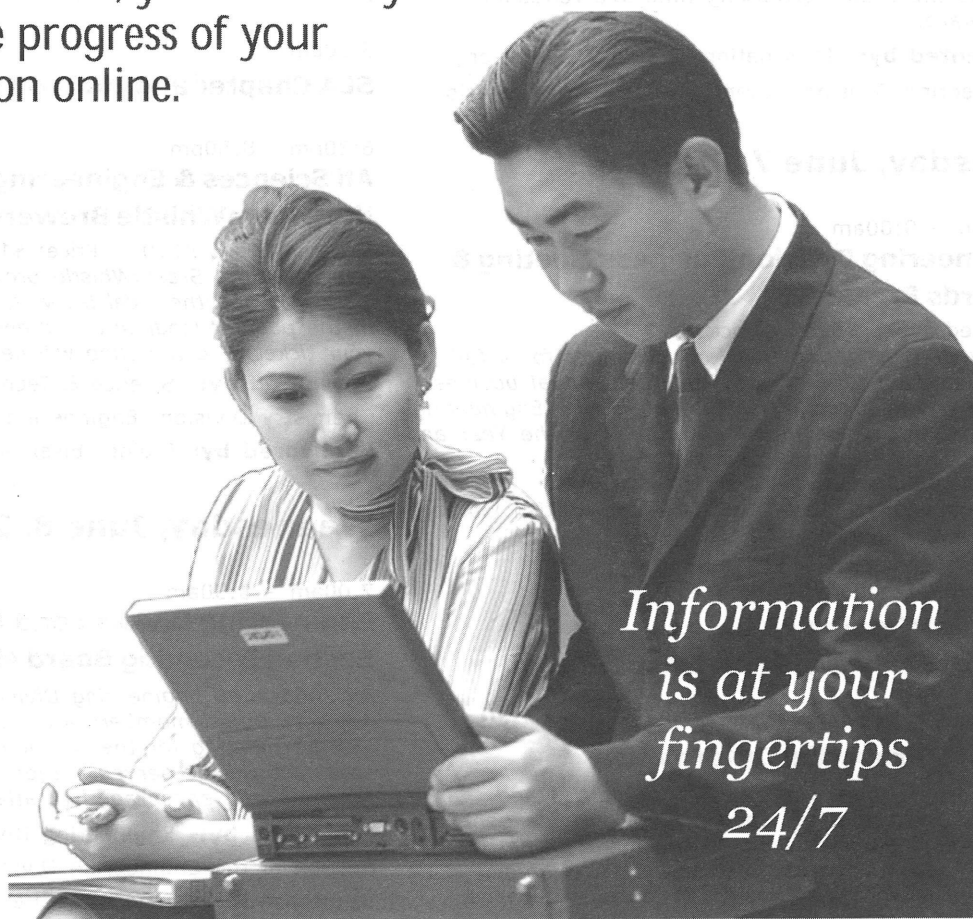
*Join us for this practical session to learn about the future of small technologies and experience several gadgets and "technology toys." Is the PDA dying?*



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*What will come next? Some of the latest innovations in small computing will be showcased and demonstrated.*

**Presented by:** Information Technology Division, Biomedical & Life Sciences Division, Engineering Division, Physics-Astronomy-Mathematics Division, Science & Technology Division

**Sponsored by:** ACM, Factiva, IEEE

8:00pm - 11:00pm

### **Science Fiction, the Future, and Libraries: an IT, Engineering, and Sci-Tech Division Open House**

*Science fiction has plenty to tell us about the future of technology and libraries. Join us to hear from three of Canada's leading science fiction authors, Robert J. Sawyer, Karl Schroeder, and Robert Charles Wilson. There will be time for questions, a booksigning, as well as the usual networking time and refreshments afterward.*

**Presented by:** Information Technology Division, Engineering Division, Science & Technology Division

## **Tuesday, June 7, 2005**

7:30am - 9:00am

### **Engineering Division Business Meeting & Awards Breakfast**

Ticketed Event #525 Price: \$10

*Join your Engineering Division colleagues for a full breakfast, networking opportunities, annual business meeting, and presentation of the Elsevier Engineering Information/SLA Engineering Librarian of the Year and INSPEC Travel Stipend Awards.*

**Presented by:** Engineering Division

**Sponsored by:** Basch Subscriptions, British Library, Morgan & Claypool

9:30am - 11:00am

### **General Session**

*Speaker Bill Buxton, Principal, Buxton Design.*

11:30am - 1:00pm

### **Finding Properties Information**

*Come learn where you can find properties and materials information. Speakers will provide general background about how to approach the properties inquiry and how to formulate a search strategy, including coverage of specific free and fee-based information resources to actually answer the question.*

**Presented by:** Chemistry Division, Engineering Division, Materials Research & Manufacturing Division

**Sponsored by:** Elsevier Engineering Information, Knovel Corporation

1:30pm - 3:00pm

### **Open Access: Evaluating Quality and Participation**

*OK, we've gotten with the program, and we know what Open Access is. Let's take the next step. How do open access journals perform with citation analysis? How does self-archiving affect readership? How do publishers determine their business models? What are the most effective ways to engage faculty attention and participation in OA publishing?*

**Presented by:** Science & Technology Division, Biomedical & Life Sciences Division, Chemistry Division, Engineering Division, Physics-Astronomy-Mathematics Division

**Sponsored by:** Cambridge Scientific Abstracts, Springer Science + Business Media, Thomson Scientific

3:30pm - 5:00pm

### **INFO-EXPO Networking**

*Don't miss your final opportunity to visit vendors, find out about the latest products, and thank our sponsors (note the exhibit hall is open 10:00am-5:00pm).*

5:30pm - ?

### **SLA Chapter and Division Cabinet Meetings**

6:30pm - 8:30pm

### **All Sciences & Engineering Reception at the SteamWhistle Brewery**

Ticketed Event #610 Price: \$15

*Join us at the SteamWhistle Brewery for hors d'oeuvres and the local brew. It's an easy walk over to the popular landmark. A brewery tour is included in your ticket, and the shop will be open!*

**Presented by:** Science & Technology Division, Chemistry Division, Engineering Division

**Sponsored by:** Dialog, Elsevier

## **Wednesday, June 8, 2005**

7:00am - 8:30am

### **Engineering Division and Aerospace Section Incoming Board Meeting**

*All 2005-2006 Engineering Division Executive and Advisory Board members are required to attend this kick-off meeting for the Division year. Continental breakfast will be served. Other Division members are welcome and encouraged to attend!*

**Presented by:** Engineering Division, Aerospace Section of the Engineering Division

**Sponsored by:** American Chemical Society Publications Division

9:00am - 11:00am

### **SLA Closing General Session**

*Speaker Gary Hamel, Visiting Professor of Strategic and International Management at the London Business School, Chairman of Strategos and Director of the Woodside Institute.*

11:30am - 1:00pm

**Science & Engineering Resources 101:  
Focus on Technical Reports, Patents,  
Standards, and Codes**

*This year in 101, get an overview of what technical reports, patents, standards, and codes actually are, and how they fit into the life of an engineer or scientist. Our experts then introduce the best resources that help in discovering, obtaining, and working with these types of materials.*

**Presented by:** Engineering Division, Science & Technology Division

**Sponsored by:** Dialog, IEEE

1:30pm - 3:00pm

**Self-Archiving, Information Repositories,  
and Knowledge Management: what can  
different types of libraries learn from each  
other?**

*Corporate, government, and academic libraries create repositories for their institution's internally-generated information. Academic libraries call it self-archiving and corporate libraries call it knowledge management. Are they the same thing? A panel of librarians from various institutions presents what different libraries can learn from each other about internal information management.*

**Presented by:** Aerospace Section of the Engineering Division, Science & Technology Division

4:00pm - 6:00pm

**Sci-Tech and Engineering Happy Hour**

*Sci-Tech and Engineering Division members, you're done! Let's adjourn to a local pub for some final networking before we say farewell to another great conference. Dutch treat. Location TBA.*

**Presented by:** Science & Technology Division, Engineering Division

**Thursday, June 9, 2005**

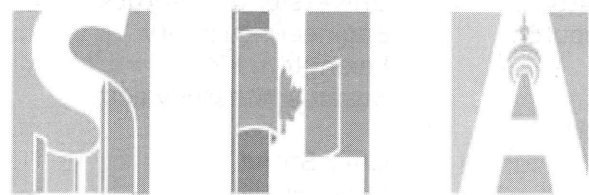
10:00am - 12:00noon

**Tour of the Merrill Collection of Science  
Fiction, Speculation, and Fantasy**

*Join us for a tour of this special collection at the Linda H. Smith Branch of the Toronto Public Library. Staff of the facility will provide a tour, show some of the collection's most remarkable treasures, and discuss the development of the collection. You may stay after the tour for an informal walking tour of bookstores in Toronto. Transportation is on your own. Pre-registration is required by emailing Stacey Greenwell, at [stacey@uky.edu](mailto:stacey@uky.edu). The deadline for registration is May 1, 2005.*

**Presented by:** Information Technology Division, Engineering Division, Science & Technology Division

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SLA Conference 2005 site

<http://www.sla.org/content/Events/conference/ac2005/index.cfm>

SLA Toronto

<http://www.sla.org/toronto>

SLA Toronto Website for the 2005 Annual Conference

<http://www.sla.org/toronto/2005/>

City of Toronto

<http://www.city.toronto.on.ca/>

Toronto.com

<http://www.toronto.com/>

Toronto Tourism

<http://www.torontotourism.com/>

Links Courtesy of the SLA Toronto Website for the 2005 Annual Conference

## Take a Minute With a New Member

In this and future editions we are going to randomly choose an Engineering Division member to highlight. Please let me know if you would like to have yourself highlighted or have someone to suggest. Contact information: Cheryl A. Hansen, Membership Chair, Engineering Division, Engineering Systems Inc., cahansen@esi-il.com.

Teresa Novitski is a new member of the Engineering Division, having joined SLA recently. Teresa is working on her MALS from Dominican University, and she will graduate in 2006. She began working at Packer Engineering, Knowledge Services in Naperville, IL as an intern in June of 2004 and came on board full-time this January. Teresa says that she is still a novice to libraries but loves the variety of work she is doing in the Packer Knowledge Center. Packer is an engineering consulting firm and that means that she is being exposed to a broad range of engineering topics and research. She says that managing the multitude of different types of information is a challenge in our current information age.

Teresa has a degree in Economics and worked in the telecommunications area for fifteen years. She shares her life with her husband and two yellow labs. They live in Glen Ellyn not far from Naperville. We will get to meet Teresa at the annual meeting in Toronto. Please welcome her to the Engineering Division. ♦

Cheryl A. Hansen  
Past Chair & Membership Chair  
Engineering Division



## Please welcome the following new members to the Engineering Division

Ted W. Baldwin  
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Haiyun Cao  
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Student Member

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Innovation Center  
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Gail Nichol  
University of Toronto  
Engineering & Computer  
Science

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Corp.  
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Technical Library  
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Info Ctr  
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Gina.r.williamson@exxonmobil.com

Alma C. Vathis-Howell  
Intel Corp – Intel Library  
Chandler, AZ  
Alma.c.vathis@intel.com



## Aerospace Section

## David Hook, Chair



The Aerospace Section of the Engineering Division encourages communication and cooperation among information professionals concerned with aerospace, aeronautical and related technologies. In addition, it fosters dialog with entities such as NASA, the AIAA and other important sources of technical data and bibliographical services.

Hello everyone and welcome to my last column as your Aerospace Chair. I believe it's customary to always start off your last column with something along the lines of '...I can't believe how fast this year has gone by....' So there you go.

And now moving on to another customary sign of the last column – the annual conference plug...

The Aerospace Section has quite a bit planned for the conference. Once again this year, we'll be having the Aerospace Breakfast and Business Meeting, at which I hope to see you all. We are also sponsoring a panel discussion entitled "Self-Archiving, Information Repositories, and Knowledge Management : What can different types of libraries learn from each other?" The idea being that there are many libraries starting initiatives to collect internally-generated information - are there similarities, differences, best practices or lessons that libraries can learn from each other?

We are also working with several other divisions to put on a great selection of sessions. It's going to be a great conference.

As promised in my last column, for the rest of this column I'll pass along some *completely random* Toronto tips:

Here's a bit of Toronto Aerospace trivia that you probably didn't know: Amelia Earhart learned to fly in Toronto.

One thing I have to mention is the correct pronunciation of the city name. If you fully pronounce all three syllables of 'To-ron-to' you will definitely be pegged as someone from out of town. To correctly sound like a native Torontonion, you have to make it into a two-syllable word: something along the lines of *Trawno* or *Trawna*. You'll hear what I mean.

If you haven't already booked your flight by now, one thing to consider is to look for flights with Air Canada. They often have direct flights to and from U.S. cities that U.S. flights do not.

For all you fame hounds, Toronto has a Walk of Fame (something like the one in Hollywood) for Canadian celebrities. It's located very close to the conference centre. Anyway, they will be inducting 9 new people this year and it will be happening on June 5<sup>th</sup> - while the conference is going on. The 2005 Canada's Walk of Fame Inductees include Paul Anka, Daniel Lanois, Alanis Morissette, Kiefer Sutherland and Fay Wray. I've heard that Kiefer Sutherland will be in attendance (I haven't heard about anyone else). The press release is available here: [http://www.canadawalkoffame.com/pressreleases/releases\\_2005.xml](http://www.canadawalkoffame.com/pressreleases/releases_2005.xml)

Other places where you might also bump into a celebrity filming a movie here (or at least so I've been told) include Yorkville, the Harbourfront Antiques Market and some of the upscale restaurants such as Avalon Bistro 990 and Sassafras.

Many visitors to Canada are unaware that they may be able to claim a refund of the Goods and Services Tax (GST) they pay on "eligible" goods and short-term accommodation. To qualify, the goods purchased must be for personal use outside of Canada (excluding alcohol and tobacco); each receipt for items bought must be for \$50 CAD or more before taxes; and the total receipts claimed for eligible goods and short-term accommodation must amount to \$200 CAD or more before taxes. Your original receipts must be stamped by Canada Customs or another approved

agency, depending on how you are traveling. The Canada Customs and Revenue Agency web site (<http://www.cra-arc.gc.ca/>) provides details on how to send in your claim within a year of your trip. (Editors note: this applies to business travel accommodations as well)

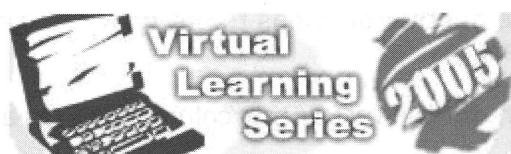
On tipping - Provincial sales tax (PST) in Ontario is eight percent, and the Goods and Services Tax (GST) is seven percent, so restaurant taxes will total 15 percent, not including alcohol. Customary tipping in Ontario is also 15 percent, so one of the very few benefits of a high tax rate is that it is easy to calculate the amount you need to tip at a restaurant—just add up the two taxes.

One relatively new tourist attraction (that you may not find in a guidebook if it is more than a few years old) is the historic Distillery district. Once the home of the Gooderham & Worts Distillery established in 1832, it's been newly renovated as a pedestrian-only village entirely dedicated to arts, culture and entertainment. More details can be found at <http://www.thedistillerydistrict.com/>

Well that's it for me and my columns for this year. I'd like to welcome Marcia Rodney as the incoming Aerospace Section Chair for 2005-2006. Hope to see you all at the conference!❖

Dave Hook  
Chair, Aerospace Section

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### 2005 SLA Virtual Learning Series

The seminars, which use web-based visuals and audio conferencing, are a great way to learn without leaving the workplace. Visit: <http://www.sla.org/content/learn/learnmore/distance/virtsemspec.cfm>, to see what you need to do to attend. The dates and topics are listed below. Seminars are typically held from 2:00 pm - 3:30 pm ET.

For those who wish to attend the program but are unable to join the live presentation, a "REPLAY" will be made available within two to three business days. You will be able to hear and see the presentation – just like attending live!

The best part of our seminar is how easy it is to take advantage of it! To learn more or if you have any questions, e-mail SLA at [learning@sla.org](mailto:learning@sla.org) or call the Professional Development Center at +1-703-647-4925.

**July 2005**, Digital Collaboration Projects for Information Professionals

**Part I:** July 6, 2005, The Digital Collaboration Landscape

**Part II:** July 20, 2005, Launching a Digital Collaboration Project

**Speaker:** K. Matthew Dames, Founder, Seso Group, LLC

**August 2005**, Information Ethics

**Part I:** August 9, 2005, Introduction to Information Ethics, Libraries, and Professional Ethics

**Part II:** August 23, 2005, Issues in Information Ethics

**Speaker:** Elizabeth Buchanan, Ph.D. Assistant Professor at the University of Wisconsin-Milwaukee School of Information Studies

**October 2005**, Library Benchmarking and the Information Product Development Lifecycle

**Part I:** October 12, 2005, The Principles of Conducting a Library Benchmarking Project

**Part II:** October 26, 2005, Integrating Benchmark Findings Into the Information Product Development Lifecycle

**Speaker:** Roger Strouse, Vice President and Lead Analyst, Outsell, Inc.

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## Materials Research & Manufacturing

Martha Rose Rhine, Chair

Members of the Materials Research and Manufacturing Division share information concerning all phases of materials procurement production, applications and handling by means of educational activities, cooperative programs, publications and Division-sponsored events at annual conferences.



**No column received.**

◆◆◆◆

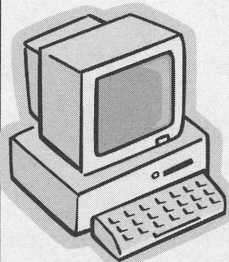
### The Materials Research and Manufacturing Division Welcomes its New Members

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Elizabeth Moran  
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Los Angeles, CA 90046

Ms. Regina R. Williamson  
ExxonMobil Chemical Americas  
Info Ctr - Rm 1439  
4500 Bay Way Dr  
Baytown, TX 77520-2101



### SLA on the Web SciTech News Division Websites

#### **Chemistry Division**

Home Page: <http://www.sla.org/division/dche/index.htm> (NEW!)  
Newsletter: <http://www.sla.org/division/dche/newsletters/index.html>  
Discussion List Instructions:  
Send an e-mail to: [Lyris@lists.sla.org](mailto:Lyris@lists.sla.org). In the body of the message:  
Subscribe sla-dche <your e-mail address> <FirstName> <LastName>

#### **Engineering Division**

Home Page: <http://www.sla.org/division/deng/index.html>  
Discussion List Instructions:  
Send an e-mail to: [Majordomo@iee.org.uk](mailto:Majordomo@iee.org.uk). Leave the subject line empty. In the body of the message write only: Subscribe sla-eng

#### **Engineering Division - Aerospace Section**

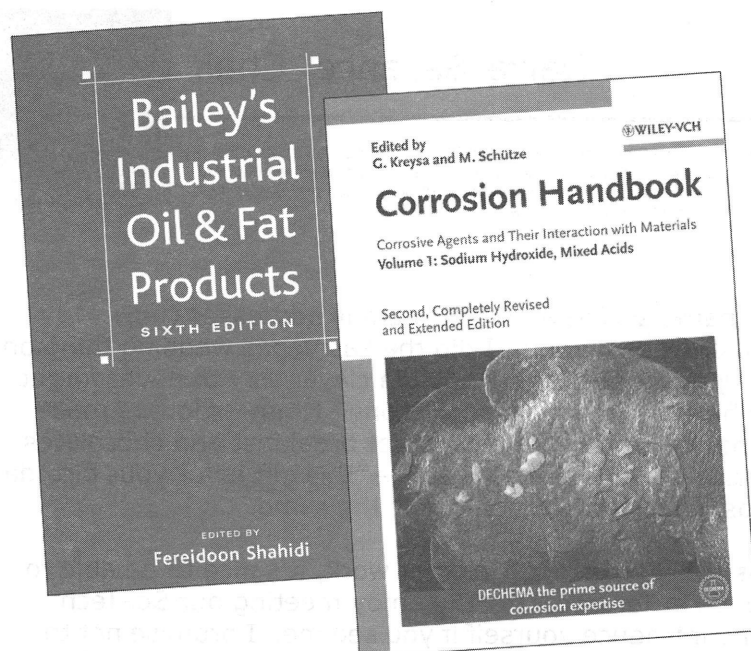
Home Page: <http://www.sla.org/division/deng/Aerospace.html>  
Discussion List Instructions:  
Send an e-mail to: [Listserv@sti.nasa.gov](mailto:Listserv@sti.nasa.gov). Leave the subject line empty. In the body of the message write only: Subscribe SLA-AERO Your\_Name

#### **Materials Research and Manufacturing Division**

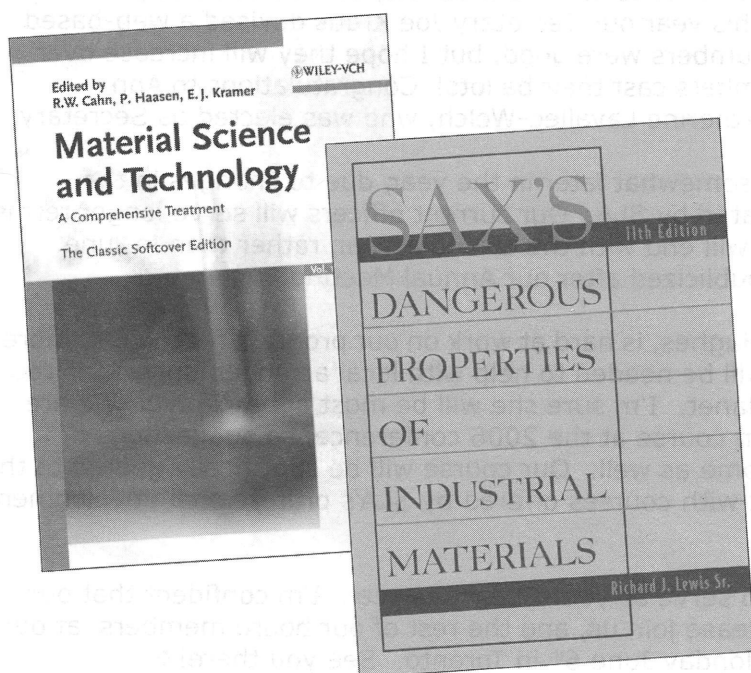
Home Page: <http://www.sla.org/division/dmrm/>  
Discussion List Instructions:  
Send an e-mail to: [Lyris@lists.sla.org](mailto:Lyris@lists.sla.org). In the body of the message write only: Subscribe SLA-DMRM <your e-mail address> <FirstName> <LastName>

#### **Science-Technology Division**

Web Address: [www.sla.org/division/dst/](http://www.sla.org/division/dst/)  
Discussion List Instructions:  
Send an e-mail to: [majordomo@welles.library.northwestern.edu](mailto:majordomo@welles.library.northwestern.edu). Leave the subject line empty. In the body of the message write only: subscribe sla-st



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Fereidoon Shahidi, Editor

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## Science-Technology Division

## Darra Ballance, Chair



The objectives of the Science-Technology Division shall be to draw together those members of the Special Libraries Association having an interest in the role of library and information science as applied to the recording, retrieval and dissemination of knowledge and information in all areas of science and technology, and to promote and improve the communication, dissemination and use of such knowledge for the benefit of libraries and their users.

Yes, it's still me, although I changed my name and have two new email addresses (how confusing—but don't worry, even the old one still works). I did the Las Vegas wedding thing on Valentine's Day. Men keep congratulating my husband on finding a clever way to never forget our anniversary, as well as a way of combining two occasions into one. Hmm—should I make him take me out for lunch AND dinner that day? Do I get flowers at breakfast and chocolates at night? I was born a week before Christmas, so I already get the "this gift is for your birthday AND Christmas" treatment a lot. Whoops, guess I'm in for more of the same.

After what I can only describe euphemistically as a rough year at work, it's nice to be able to look forward to the SLA Annual Conference in Toronto. I really enjoy meeting our Sci-Tech Division members, so please come up and introduce yourself if you see me. I promise not to immediately try to recruit you as a committee chair (I'll leave that to our incoming chair, Mary Frances Lembo. Just kidding, Mary Frances!). I'm sure you've seen the information about the program on the Sci-Tech web site, but there is also a complete schedule of events in this issue of Sci-Tech News. Thanks to our planner Ann Koopman for pulling together a great program this year.

Sci-Tech members had their first opportunity this year to conduct our voting for new officers electronically. In past years we had been able to email the ballots, but then had to print them out and snail mail them to our Teller. This year our Secretary Joe Kraus devised a web-based form that served as the ballot. Voter numbers were good, but I hope they will increase over time. It's really important that our members cast their ballots! Congratulations to Ann Koopman, who won Chair-Elect, and Catherine Lavalley-Welch, who was elected as Secretary.

In 2006 our election will be conducted somewhat later in the year, due to changes in the governance year that have been mandated by SLA. Our current officers will serve longer terms (by six months) so that terms of office will end with the calendar year, rather than in June. Details about the next election will be publicized after our Annual Meeting.

Also, our 2006 Program Planner, Janet Hughes, is hard at work on our program for the Baltimore conference. Members from that area will be needed to help with local arrangements, so if you can help out, please get in touch with Janet. I'm sure she will be most appreciative. We are planning to have a continuing education course at the 2006 conference, so suggestions or offers for help with that would be welcome as well. Our course will be specifically geared to the Sci-Tech audience, so as not to conflict with courses offered by SLA's professional development section.

Thanks for giving me the opportunity to serve as your Chair this year. I'm confident that our incoming officers will do a great job. Please join us, and the rest of our board members, at our Sci-Tech Annual Business Meeting on Monday June 6<sup>th</sup> in Toronto. See you there! ♦

Darra Ballance  
darra.ballance@srs.gov  
Chair, Sci-Tech Division



## Toronto Treats for Sci-Tech

June is a beautiful time of year in Toronto, and Sci-Tech members will get to enjoy some special Canadian treats in their conference schedules. Alain Haché, PhD, will bring some hockey talk to enthusiasts currently deprived of that sport. The Steam Whistle Brewery is the site of our All Sciences & Engineering Reception this year, so be sure to sign up for a tour and taste of this excellent microbrew. And both an open house and our tour this year feature Toronto luminaries in science fiction – both authors and the noted Merrill Collection. Be sure to fill out your evaluation forms so Baltimore's meeting can address your interests. Better yet – volunteer to help with the programming. Planner Janet Hughes would love to hear from you (janethughes@psu.edu).

### Sunday

7:30 - 9:00 a.m. Get started early with the Academic Science Librarians' Roundtable, once again shared with Chemistry, Biomedical & Life Sciences, and Sci-Tech. Ticket #200, \$10 covers a continental breakfast.

9:30 - 11:00 a.m. Sci-Tech Newcomer's Brunch. More food! All students & newcomers to the division (as well as current members) are invited to meet division officers, learn more about the division, and begin networking. Beware of committee chairs wielding sign-up sheets! Generously sponsored by Thomson Scientific.

11:30 a.m. - 1:00 p.m. Vendor Update: Document Delivery for Science & Technology. Hear from CISTI, Linda Hall and the British Library about their products. Cosponsored by the Engineering Division.

1:30 - 3:00 p.m. Outgoing Board Meeting. All division members are welcome to attend as outgoing chair Darra Ballance presides.

4:00 - 6:00 p.m. Full Conference: Info-Expo Networking Reception in the Exhibit Hall.

### Monday

7:30 - 9:00 a.m. Sci-Tech Division Business Meeting & Breakfast. Ticket #415 for \$15. Join your colleagues to celebrate division awards, network, and catch up on the latest division activities. Corporate sponsors: British Library and Knovel.

9:30 - 11:00 a.m. Full Conference: General Session #1.

Choices, choices!

11:30 a.m. - 1:00 p.m. Computer Science Roundtable, cosponsored with PAM Division

11:30 a.m. - 1:00 p.m. Standards Roundtable, cosponsored with Engineering Division

11:30 a.m. - 1:00 p.m. Chemistry, Sci-Tech & PAM Poster Session: Better Understanding Your Users. Corporate sponsors: ACS and Dialog.

11:30 a.m. - 1:00 p.m. Who Owns Scientific Knowledge and Who Deserves To: Are Patents an Incentive for Innovation or an Obstacle to Further Development? An international panel of experts on innovation, intellectual property protection and bioethics will discuss the problems presented by ownership of knowledge and offer some solutions using examples from health care and other fields. Cosponsored with Biomedical & Life Sciences Division. Corporate sponsors: Dialog and IEEE.

1:30 - 3:00 p.m. Full Conference: Visit the Exhibit Hall

3:30 - 5:00 p.m. Cooperating to Survive & Flourish in the Modern Sci-Tech Library. The contributed papers session for Sci-Tech examines cooperative purchasing, collection sharing, innovative licensing, staff exchange. Hear colleagues' creative solutions to tough economic times. Corporate sponsors: Elsevier and OpenText.

3:30 - 5:00 p.m. Technology Petting Zoo: PDAs and Beyond. Join colleagues from 5 divisions for this practical session to learn about the future of small technologies and experience several gadgets and "technology toys." Is the PDA dying? What will come next? Some of the latest innovations in small computing will be showcased and demonstrated. Cosponsored with IT, Biomedical & Life Sciences, PAM, and Engineering.

8:00 - 11:00 p.m. Science Fiction, the Future, and Libraries: an IT, Engineering and Sci-Tech Division Open House. Science fiction has plenty to tell us about the future of technology and libraries. Join us to hear from

three leading science fiction authors: Robert J. Sawyer, Karl Schroeder, and Robert Charles Wilson. We'll have plenty of time for Q&A, book signing, as well as refreshments & networking.

## Tuesday

7:00 - 8:30 a.m. Another early start! This time it's the Annual Diversity Breakfast — Age and Diversity: Examining the Impact of Age on the Information Profession. Cosponsored by IT, Sci-Tech, the European Chapter, and the Diversity Leadership Development Committee.

9:00 - 11:00 a.m. Full Conference: General Session #2.

11:30 a.m. - 1:00 p.m. The Science of Hockey. Join Alain Haché, PhD, noted Canadian physicist and author of *The Physics of Hockey*, for an entertaining yet substantive look at the science behind the world's fastest sport. Corporate sponsor: CAS.

1:30 - 3:00 p.m. Open Access: Evaluating Quality and Participation. OK, we've gotten with the program and we know what Open Access (OA) is. Let's take the next step. How do OA journals perform with citation analysis? How does self-archiving affect readership? How do publishers determine their business models? What are the most effective ways to engage faculty attention and participation in OA publishing? Cosponsored with PAM, Biomedical & Life Sciences, Chemistry and Engineering.

3:30 - 5:00 p.m. Full Conference: Visit the Exhibit Hall

6:30 - 8:30 p.m. All Sciences & Engineering Reception at the SteamWhistle Brewery. Ticket #610 for \$15 covers hors d'oeuvres, the local brew, and a tour of the popular brewery within easy walking distance of the Convention Center. Cosponsored by Chemistry and Engineering. Corporate sponsor: Elsevier.

## Wednesday

7:00 - 8:30 a.m. Sci-Tech Incoming Board. All division members are welcome to observe their incoming officers struggle with yet another early morning encounter. It should be highly entertaining. Corporate sponsor: ACS.

9:30 - 11:00 a.m. General Session, Gary Hamel.

11:30 a.m. - 1:00 p.m. Science & Engineering Resources 101: Focus on Technical Reports, Patents, Standards and Codes. Our own Mary Frances Lembo and James Manasco will discuss how these documents fit into the life of an engineer or scientist, and introduce the best resources to discover, obtain and work with these types of material. Cosponsored with the Engineering Division. Corporate sponsors: Dialog and IEEE

1:30 - 3:00 p.m. Self-Archiving, Information Repositories, and Knowledge Management: What Can Corporate and Academic Libraries Learn from Each Other? A panel of librarians from various institutions presents what different libraries can learn from each other about internal information management. Cosponsored with the Engineering Division.

1:30 - 3:00 p.m. Winner's Circle of Best Science Web Sites. Members of SLA's science-related divisions will highlight the best new, recently revised and "must see" Web sites in their respective subject areas. Cosponsored with Biomedical & Life Sciences, Chemistry, and ERM. Corporate sponsor: CrossRef

4:00 - 6:00 p.m. Sci-Tech & Engineering Happy Hour. It's been a LONG conference! Unwind with your friends at a local establishment — Dutch treat.

## Thursday

Yes, we have a tour! And it's FREE, but you have to sign up in advance.

10:00 a.m. - noon. Tour of the Merrill Collection of Science Fiction, Speculation, and Fantasy. Join us for a tour of this special collection at the Linda H. Smith Branch of the Toronto Public Library. Staff of the facility will provide a tour, show some of the collection's more remarkable treasures, and discuss the development of the collection. Stay after the presentation for an informal walking tour of bookstores in Toronto. Transportation is on your own. **This tour is free, but preregistration is required — email Stacey Greenwell at [stacey@uky.edu](mailto:stacey@uky.edu) by May 1, 2005.**



## The Science and Technology Division Welcomes These New Members

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## Continuing Education Survey Results

### Message from the ALA/ACRL/STS Co-Liaisons Virginia (Ginny) Baldwin, Leila Fernandez

The Continuing Education Committee of the Science and Technology Section (STS) of the Association for College & Research Libraries (ACRL) normally conducts a survey every two years to identify the continuing education interests of its constituents. At the January 2004 ALA Midwinter meeting the Continuing Education Committee, mindful of the rapid changes taking place in its constituents' work environments, decided to conduct a "hot topics" survey in 2004 to continue the work of the 2003 survey. At the same meeting Virginia Baldwin, a member of the Special Libraries Association and the American Society for Engineering Education Engineering Libraries Division (ELD) as well as STS, proposed a collaboration of the three organizations in conducting the survey. All three associations worked together to design the survey. The analysis of the 254 responses presented here is the result of that collaboration. (from the Web site below)

The complete results of the first STS continuing education "hot topics" survey are available online:

<http://www.ala.org/ala/acrl/aboutacrl/acrlsections/sciencetech/stscommittees/stscontinuingeducation.htm>

The survey represents a collaborative effort between ELD, ACRL Science and Technology Section and the SLA Science-Technology Division. The results will be valuable to members for future conference planning and for research.

Data collection took place during October and November 2004. The survey was publicized through the listservs of the three organizations. In order to gather a wide range of responses, colleagues were asked to fill out the survey and to submit it to others and to other appropriate listservs.

Twenty-one pre-selected topics were offered and respondents were asked to rank the topics by level of interest on a five-point "likert-like" scale from "not interested" to "very interested." Next, open-ended questions asked respondents to volunteer their three topics of greatest interest. Finally, membership information and conference attendance plans were solicited. Sixty-four percent of Science-Technology Division respondents indicated they plan to attend the 2005 SLA Annual Conference.

The Likert-like scale results were analyzed overall and by attendance plans for ALA, ACRL, ASEE, and SLA conferences. The analysis of the 254 responses, available through the STS Continuing Education page at the URL above, is the result, and includes 91 Science-Technology Division members. Chart 1 summarizes the membership affiliation of respondents.

### 3. Tell Us About Yourself

1. Check any that apply. I am a member of:

		Response Percent	Response Total
ALA		58.4%	142
ACRL		48.6%	118
ASEE Engineering Libraries Division		26.3%	64
SLA Scitech Division		37.4%	91
STS		41.6%	101
Other (please indicate):		39.1%	95
Total Respondents			243
(skipped this question)			11

Chart 1

The results for the pre-selected topics were analyzed overall and by conference attendance plans for ALA, ACRL, ASEE and SLA conferences. Among those respondents who indicated they planned to attend the SLA conference, the topics that received a median score of 3 or more on the "likert-like" scale were:

1. Open access journals in the sciences
2. Collaborating with faculty on research or teaching
3. Development of a digital institutional repository
4. Federated searching
5. Finding free, high-quality online data
6. Invisible web
7. Marketing and outreach
8. Science blogs, listservs, & other ways of keeping current
9. Usage statistics for collection development
10. Current awareness services for faculty
11. Efforts to establish a national science library
12. Disappearance of data from government web sites
13. Assessment and user surveys
14. Citation analysis

Respondents were asked to name the three most important topics. Open access journals, collaboration with faculty, and marketing and outreach were the three topics of greatest interest overall. Chart 2 summarizes the top overall responses. The numbers next to the topics are the question numbers on the survey. More detail is available on the survey web site given above.

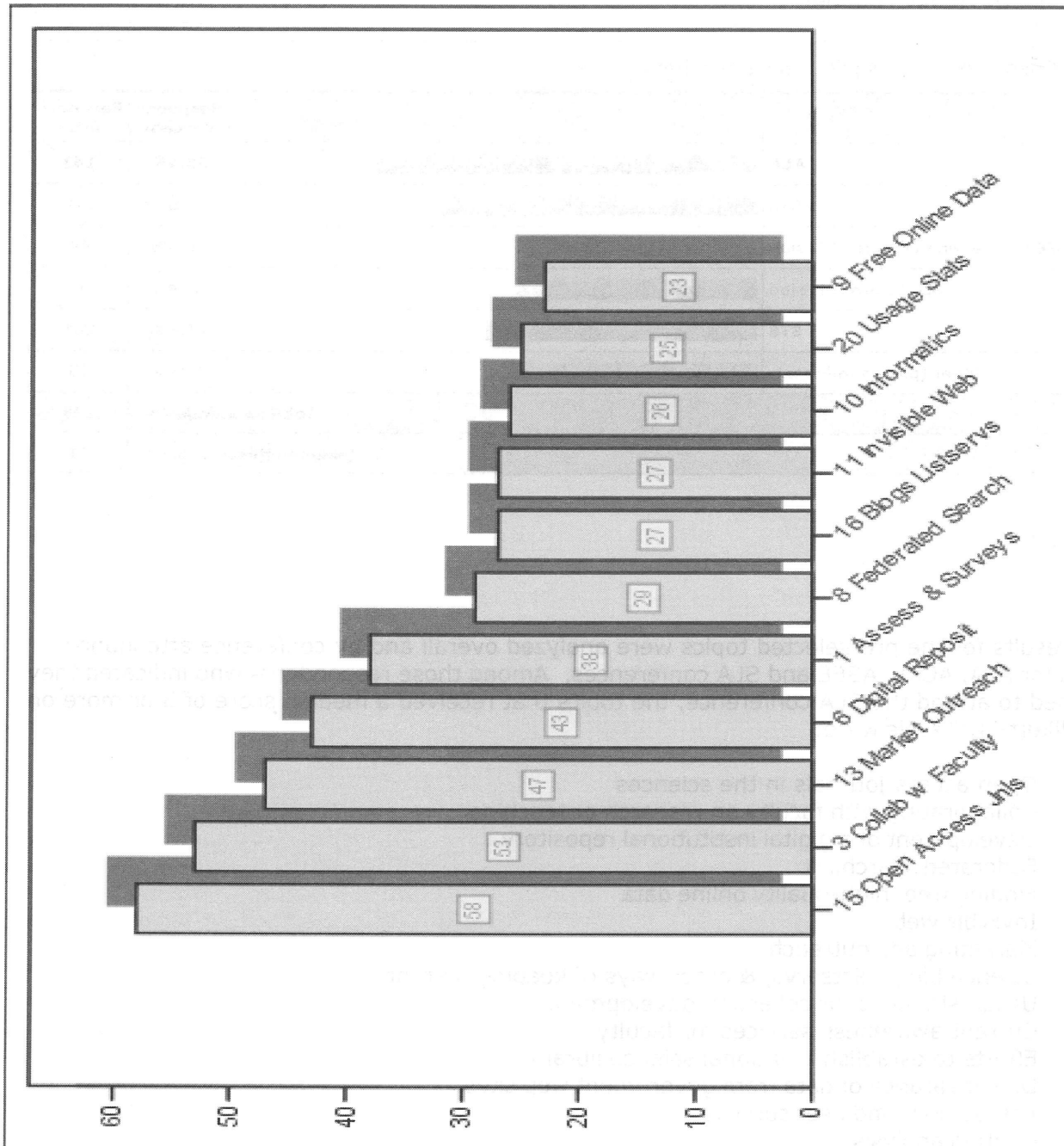


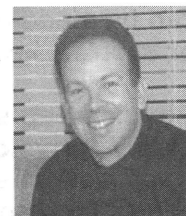
Chart 2





## Web Reviews

David Hook



This time around, I'll cover some sites related to Physics.

### General Physics Sites

#### **Physics 2000**

**<http://www.colorado.edu/physics/2000/index.pl>**

Physics 2000 is a site that uses many interactive "applets" in order to demonstrate not only basic physical concepts, but also the scientific concepts that are used to make modern devices work including lasers, microwave ovens, x-rays, cat scans. This site is a lot of fun – I particularly liked the demo of cooking marshmallows in a microwave oven.

#### **Computer Animations of Physical Processes**

**<http://physics.nad.ru/>**

This website offers animated physics demonstrations and visualizations on topics in physics such as waves, mechanics, optics, thermodynamics and electricity. All of the animations are accompanied with theoretical explanations. There are also animations of science's top ten most beautiful experiments.

#### **The Laws List**

**<http://www.alcyone.com/max/physics/laws/index.html>**

As the name of the site suggests, this site began as a list of the various laws, rules, principles and other related topics in physics and astronomy, sorted alphabetically. Now, however, the site has evolved into a glossary of physics terms. Regardless of its evolution, it still remains a valuable resource.

#### **NIST Physical Reference Data**

**<http://physics.nist.gov/PhysRefData/>**

Maintained by the National Institute of Standards and Technology, this site is a searchable resource of physical constants and a variety of other physics-related data.

### Staying Current

#### **HEP: The High Energy Physics Libraries WebZine**

**<http://library.cern.ch/HEPLW/>**

The HEP libraries webzine was launched in March 2000. Published twice a year, the webzine is aimed at scientific libraries and librarians and is for discussing issues related to science libraries. It presents the latest developments in the fields of information management, reference tools, databases, resources and electronic publishing.

#### **PhysicsWeb**

**<http://physicsweb.org/>**

The online companion to *Physics World*, PhysicsWeb is a webzine featuring the latest in physics jobs, news and resources.

#### **PhysLink Online**

**<http://www.physlink.com/>**

The main feature of this physics and astronomy news site is its online articles, but there are also links to physics reference resources, discussion forums and an 'ask the experts' feature for posting your physics questions.

### Databases & Other Resources

#### **PhysNet**

**<http://physnet.uni-oldenburg.de/PhysNet/>**

PhysNet is a worldwide network of physics departments. The site enables users to search for documents on web servers of university physics departments and physics institutions worldwide. A non-commercial service, PhysNet is freely accessible for anyone.

#### **IOP: Institute of Physics Electronic Journals Search**

**<http://www.iop.org/EJ/search>**

This site lets you search the content of about fifty journals in the field of physics. Searches

can be made by title, author, affiliation, date or abstract keyword.

### PhysicsWeb's Resources Page

**<http://physicsweb.org/resources/>**

Many web links related to physics, including education resources, reference resources, and links to various organizations' websites.

### Physics Preprints, Abstracts, Reports

**<http://www.csc.fi/physics/Preprints.html>**

Maintained by the Center for Scientific Computing in Finland, this site links to a variety of preprint sites in a wide range of physics disciplines.

### Physics.org

**<http://www.physics.org>**

Motivated by a frequent student and teacher complaint that there is too much physics information on the web, the Institute of Physics developed this site to aid in finding relevant and accurate web sites related to physics. Using natural language query software, the site will recommend web sites from its database of refereed resources to answer your question. Users can also recommend resources.

### Specific Resources

### Gallery of Fluid Mechanics

**<http://www.galleryoffluidmechanics.com/gall.htm>**

This site, originally developed by Professor M.S. Cramer of the Engineering Science and Mechanics Department of Virginia Tech, contains some very cool photos displaying various fluid behaviour and phenomena. The author also explains much of the physics behind the images.

### PSRC: The Physical Sciences Resource Center

**<http://www.psrc-online.org/>**

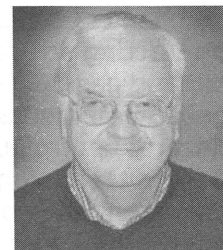
From the American Association of Physics Teachers, this site is a collection of information and resources for physical science education. Searchable by keyword, name, topic or grade level, users will find educational materials for students of all grade levels and they can even submit their own materials or join in the discussion forums. ♦

♦♦♦♦

The advertisement features a large banner at the top with the text "information outlook online" in a bold, sans-serif font. Below the banner, there are several callouts and logos. On the left, a callout says "powered by ebrary" with the ebrary logo. Next to it, another callout states "Immediate access to all 2004 issues of Information Outlook® (i.e. with ads etc.)". Below these, a dark box contains the text "Easy-to-use interactive platform". To the right, a callout mentions "Instant links to additional resources on SLA's Web site and other search engines". Further right, another callout says "\*Free (member) access to digital editions of all IOs from 1997 and Special Libraries from 1910 to 1996". At the bottom, the website address "www.sla.org/informationoutlook" is prominently displayed. Below this, the SLA logo (Standard & Poor's) is shown on the left, and the text "Information Outlook® Online sponsored by STANDARD & POOR'S" is on the right. A small footnote at the bottom right reads "\*Access to Information Outlook® 1997 - 2003 and Special Libraries through ebrary coming soon."

## New Science and Technology Journals

Earl Mounts



*ACM Transactions on Multimedia Computing, Communications and Applications (ACM TOMCCAP)*. 1551-6857. ACM. v.1, 2005. 4/year. <http://www.acm.org/tomccap/>

*ACM Transactions on Multimedia Computing, Communications and Applications (TOMCCAP)* is a multidisciplinary, archival, scholarly journal in the general field of multimedia and applications. Multimedia is now a mature area, having evolved over approximately 20 years. The term "media" traditionally referred to entities such as audio, video, text, images, graphics, animation. New media will be added in the future, including virtual reality, holography, haptics, eSmell, eTaste, eThought. The term "multimedia" has now been accepted to mean documents composed of at least two correlated media. The correlation could be temporal, spatial or semantic. Applications now appear in many fields such as entertainment, publishing, advertising, banking, insurance, e-commerce, travel, medical, defense, training, geographical information systems, weather and many others. Articles will focus on multimedia computing (I/O devices, OS, storage systems, streaming media middleware, continuous media representations, media coding, media processing, etc.), multimedia communications (real-time protocols, end-to-end streaming media, resource allocation, multicast protocols, etc.), and multimedia applications (databases, distributed collaboration, video conferencing, 3D virtual environments, etc.).

*Chemistry World*. 1473-7604. Royal Society of Chemistry. v.1, 2004. 12/year. \$900.00 (free to members). <http://www.rsc.org/chemistryworld/index.htm>

Chemical science never has been more central to society. *Chemistry World* reflects the new challenges from materials to medicines, nanotechnology to sustainable development, and genetic crop modification to climate research. The journal includes more features on applied chemistry, company profiles, overviews of chemistry in global regions, and interviews with leading individuals in the

community. The April 2005 issue includes articles on the beauty of chemistry and "innovative places for innovation". Each issue also includes a crossword puzzle.

*Ecological Informatics*. 1574-9541. Elsevier. v.1, 2005. 4/year. [http://www.elsevier.com/wps/find/journaldescription.cws\\_home/705192/description#description](http://www.elsevier.com/wps/find/journaldescription.cws_home/705192/description#description)

*Ecological Informatics* is a new international journal devoted to peer-reviewed articles on all aspects of ecoinformatics, computational ecology and systems ecology, and special issues on topics of current interest. The scope of the journal includes principles of information processing from genomes to ecosystems, computational approaches to ecological scales and complexity, computational approaches to ecosystems analysis, synthesis, simulation and forecasting, ecological pattern analysis at nano- to macroscales, management of ecological data. The nature of the journal is interdisciplinary, publishing papers on information processing in ecosystems, ecological data management as well as computation, and the crossover between biology/ecology and computer/information sciences. This new journal is essential reading for ecologists doing research on computational ecology, biologically-inspired computation, quantitative ecology, ecological complexity, ecosystem modeling, inductive modeling, knowledge discovery, artificial neural networks, evolutionary algorithms, cellular automata, fuzzy logic, adaptive agents, individual-based modeling, qualitative reasoning, data warehousing, artificial intelligence, artificial life, artificial chemistry as well as support vector machines.

*International Journal of Geomechanics*. 1532-3641. ASCE. v.1, 2001. 4/year. \$312.00. <http://scitation.aip.org/gmo/>

The *International Journal of Geomechanics* focuses on geomechanics, covering interdisciplinary topics such as soil and rock

mechanics; statics and dynamics of interacting structures and foundations; fluid, oil, and gas flow through porous media; geoenvironmental engineering; natural hazards; petroleum engineering; offshore and marine technology; infrastructure and pavement engineering; geological engineering; geothermal energy; and ice mechanics. Specific topics the journal might cover are numerical and analytical methods; constitutive modeling; localization, fracture and instabilities; neural networks, expert systems, optimization, reliability, and computer-aided engineering; laboratory and field testing; geohazards (earthquakes, landslides, subsidence, etc.); soil and rock-structure interaction; ground improvement and geosynthetics; pavement and infrastructure geomechanics; petroleum geomechanics; lunar and planetary geomechanics; seepage, consolidation, transport, and coupled problems; geotechnical structures (walls, slopes, dams, footings, piles, tunnels, mines, boreholes, and offshore structures); practical applications including design analysis, case studies, back analysis, and laboratory and field validations; construction processes; and education.

*JDMS: The Journal of Defense Modeling and Simulation: Applications, Methodology, Technology.* Society for Modeling and Simulation International. 4/year. <http://www.scs.org/pubs/jdms/jdms.html>

*JDMS: The Journal of Defense Modeling and Simulation: Applications, Methodology, Technology* is a quarterly refereed archival journal devoted to advancing the practice, science, and art of modeling and simulation as it relates to the military and defense. The primary focus of the journal is to document, in a rigorous manner, technical lessons derived from practical experience. The journal will also publish work related to the advancement of defense systems modeling and simulation technology, methodology, and theory. The journal will cover all areas of the military/defense mission, maintaining a focus on the practical side of systems simulation rather than pure theoretical applications.

*Journal of ASTM International (JAI).* 1546-962X. ASTM. v.1, 2004. 10/year. \$695.00. [http://journalsip.astm.org/JOURNALS/JAI/jai\\_home.html](http://journalsip.astm.org/JOURNALS/JAI/jai_home.html)

The *JAI* is a multidisciplinary forum to serve the international scientific and engineering community through the timely publication of the results of original research and critical review articles in the physical and life sciences and engineering technologies. It is the new source for papers from ASTM's symposia program, which prior to *JAI* were published in ASTM's Special Technical Publications (STPs). These peer-reviewed papers cover diverse topics relevant to the science and research that establish the foundation for standards development within ASTM International. Topics covered include all aspects of materials performance and characterization, civil engineering and building materials, petroleum and chemical engineering, nuclear science and technology, and environmental science and technology.

*Journal of Statistical Mechanics: Theory and Experiment (JSTAT).* 1742-5468. Institute of Physics. v.1, 2004. 12/year. <http://www.iop.org/EJ/journal/JSTAT>

*Journal of Statistical Mechanics: Theory and Experiment (JSTAT)* is a multidisciplinary, peer-reviewed international journal which brings together cutting-edge research in all aspects of statistical physics particularly emphasizing experimental work that impacts on fundamental aspects of the subject. *JSTAT* offers web-only submission and aims for rapid publication. The editor's first decision (which is also the last in the case of acceptance), is reached on average in 4 weeks for letters and 6 weeks for papers. There are no page charges to authors. Being an online journal, *JSTAT* offers authors the possibility to publish large data sets, tables and figures, as well as movies and other color multimedia attachments.

*Journal of Website Promotion.* 1553-3611. Haworth Press. v.1, 2005. 2/year. \$250.00. <http://www.haworthpress.com/web/JWP/>

Effective site promotion is a vital step in conducting e-business. The *Journal of Website Promotion* provides up-to-date research and practical ideas to help develop and implement sites as well as valuable tips on creating a



user-friendly atmosphere, and developing content that is relevant to the target market. The journal contains both academic articles and brief updates, helpful case studies and analysis, and reviews of books and websites. This publication shows how to make the best use of news groups, forums, e-catalogs and e-books, banner/exchange advertising and co-branded relationships. Topics covered include promoting sites to search engines, analyzing the online audience, engaging and retaining customers, global web positioning, public relations strategies of effective websites, clarifying and setting promotion objectives, target market user profiling, and the ethics of spam-free speech and money issues.

*Make: technology on your time.* O'Reilly Media Inc. v.1, 2005. 4/year. \$34.95. <http://www.makezine.com/>

*Make* is the first magazine devoted to digital projects, hardware hacks, and D.I.Y. inspiration. Recent articles include: Amazing things that ordinary people are making in their garages and backyards, including the Niles Monorail, steam locomotives, serious Legos, a thermo-electric keg wrap, Meccano computing machinery, and more. Bunnie Huang prototypes two kinetic glowsticks: instead of creating a single arc of light, glowsticking dancers can now create their own two-dimensional fantasias. To take pictures from a kite, you need three things: a kite, a camera, and a special rig that attaches the camera to the kite line and activates the shutter button on the camera. Neil Gershenfeld, teacher of MIT's course "How to Make (Almost) Anything" gives us a tour of the Boston fab lab, one of a growing network of field labs all over the world. Also included is an easy-to-use application to manage routine and time-consuming weblog chores.

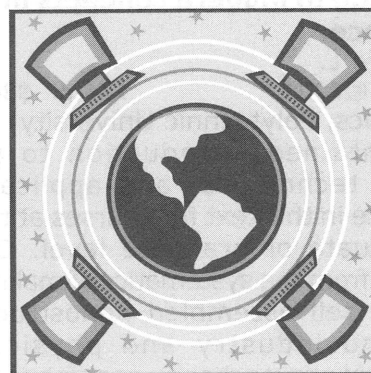
*Physical Biology.* 1478-3975. Institute of Physics. v.1, 2005. <http://www.iop.org/EJ/journal/physbio>

*Physical Biology* is a peer-reviewed journal fostering the integration of biology with the traditionally more quantitative fields of physics, chemistry, computer science and other mathematics-based disciplines. Its primary aim is to further the understanding of biological systems at all levels of complexity, ranging from the role of structure and dynamics of a single molecule to cellular

networks and organisms. Topics covered include molecular interactions and protein folding, ion-channel structure and function and ion regulation, biological networks and neural systems, modeling aspects of molecular and cell biology, cell-cell signaling and interaction, single molecule studies and nanobiotechnology, and novel tools and methods in physical biology.

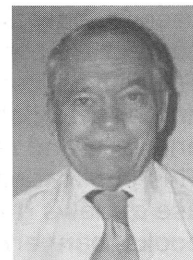
*Smart Structures and Systems.* 1738-1584. Techno-Press Ltd. v.1, 2005. 4/year. \$396.00. [http://technopress.kaist.ac.kr/journal\\_sss.jsp](http://technopress.kaist.ac.kr/journal_sss.jsp)

*Smart Structures and Systems: an International Journal of Mechatronics, Sensors, Monitoring, Control, Diagnosis, and Management* provides a publication channel for researchers in the general area of smart structures and systems. Areas of coverage include sensors and actuators (materials/ devices/ informatics/networking), structural health monitoring and control, diagnosis/ prognosis, life cycle engineering (planning/ design/ maintenance/renewal), and related areas. The global editorial board is headed by Professor B. F. Spencer, Jr., Dept. of Civil & Environmental Engineering, University of Illinois at Urbana-Champaign for the American edition. Forthcoming articles include: Sensor modeling and failure-level fusion by Bayesian networks (Ferrari and Vaghi), Smart foam for active vibration and noise control (Akl and Baz), and Modal identification and modal updating of a reinforced concrete bridge (El-Borgi, Choura, Ventura, and Baccouch).❖



## Sci-Tech Book News Reviews

Ellis Mount, Selector



The following section consists of 100 book reviews selected from *Sci-Tech Book News*, reprinted with the permission of Book News Inc. This review journal is published four times a year, each issue reviewing over 2,000 new titles in the physical and biological sciences, mathematics, engineering, computer science, technology, and agriculture. For a sample issue and subscription information, contact Book News Inc. at 5739 NE Sumner Street, Portland, OR 97218. Ph: (503)281-9230; Fx: (503)287-4485; E-mail: booknews@booknews.com.

### TECHNOLOGY (GENERAL)

T57 1-85312-736-1

#### **Risk analysis 4; proceedings.**

International Conference on Computer Simulation in Risk Analysis and Hazard Mitigation (4th: 2004: Rhodes, Greece) Ed. by C.A. Brebbia. WIT Press, ©2004 811 p. \$465.00  
In introducing 74 papers from the RISK 2004 conference held in Rhodes, Greece, Brebbia (Wessex Institute of Technology, UK) notes that risk analysis and the mitigation of potential risks associated with natural and human-caused hazards have become top priorities for planners, engineers, and researchers. Fittingly, given the recent mega-disaster in Southeast Asia, the first several sets of papers address risk simulation, statistical prediction maps, and risk reduction of seismic, landslide, flooding, and multi-hazard events. Contributors discuss theoretical, methodological, and applied aspects of additional topics including risk perception, data analysis, terrorism, emergency responses, soil and water contamination, and air quality. The book is not indexed by subject. A companion website offers a post-conference report. The US office of WIT Press is Computational Mechanics.

T174 3-527-40407-4

#### **Nanophysics and nanotechnology; an introduction to modern concepts in nanoscience.**

Wolf, Edward L. 174 p. \$84.95 (pa)  
Wiley-VCH, ©2004  
Wolf (physics, Polytechnic University) provides a self-contained introduction to physical concepts, techniques, and applications of nanoscience in this text for courses at the upper undergraduate or graduate level. Coverage progresses from the systematics of making things smaller to self-assembled nanostructures in nature and industry and physics-based experimental approaches to nanofabrication and nanotechnology. Chapter exercises are included. Readers should have previous courses in calculus-based physics, introductory chemistry,

and undergraduate mathematics and computer science.

T174 3-527-30978-0

#### **The nano-micro interface; bridging the micro and nano worlds.**

Title main entry. Ed. by Hans-Jörg Fecht and Matthias Werner. Wiley-VCH, ©2004 327 p. \$135.00  
The interface, affectionately known as NAMIX, intends to bridge the gap between very tiny microsystem technology and very, very tiny nanotechnology, both of which are becoming increasingly important in new products and production technologies in nearly all industrial branches. Scientists from universities and companies around the world cover nanotechnology research funding and commercialization prospects, fundamentals and technology, and applications. The specific topics include technological marketing for early nanotechnologies, the microwave-driven hydrothermal synthesis of oxide nanopowders for applications in optoelectronics, and nanoparticles-based chemical gas sensors for outdoor air quality monitoring.

### ENGINEERING (GENERAL, CIVIL)

TA147 0-7918-0230-2

#### **Engineering disasters<—>lessons to be learned.**

Lawson, Don. 399 p. \$149.00  
ASME, ©2005  
Intended for practicing engineers, the stories in this cavalcade of calamities recount some of the most famous design mistakes made in the 1900's and examine their actual cause. The 17 incidents span air travel, railroads, space flight, ferries, bridges, turbines, and nuclear reactors. Lawson, a British engineer who worked in the power industries, reflects on the nature of the engineering profession and the skills required to make good decisions, and identifies the largely human factors common to most failures. A few black and white photographs are provided.

TA157 2004-056801 0-7844-0732-0

**Professional communications; a handbook for civil engineers.**

Silyn-Roberts, Heather.

*Am. Society of Civil Engineers*, ©2005 251 p. \$39.00 (pa)

This handbook provides guidelines for writing large proposals, feasibility studies, operating procedures, formal letters, brochures, conference papers, e-mails, and even office memos. Silyn-Roberts (mechanical engineering, University of Auckland) defines the requirements for each section and element of a document, explains the structure of an executive summary or abstract, and reviews the rules regarding citing sources, editorial conventions, and grammar.

TA157 0-471-65576-7

**Stuff you don't learn in engineering school; skills for success in the real world.**

Selinger, Carl.

*Wiley-IEEE Press*, ©2004 178 p. \$32.95 (pa)

This practical book offers young engineers advice on speaking in front of a group, running a meeting effectively, making decisions, setting priorities, working with all sorts of people, learning to negotiate, developing leadership skills, and dealing with stress in the workplace. The author worked 30 years at the Port Authority of New York.

TA157 79-1392150-8379-5764-8

**Who's who in science and engineering; 2005-2006, 8th ed.**

Title main entry.

*Marquis Who's Who, Inc.*, ©2004 2374 p. \$335.00  
HHHH Previous editions are cited in Guide to Reference Books and Walford's Guide to Reference Material. This edition happened to appear simultaneously with an eight-volume challenger: *American Men and Women of Science* (Gale, 2005), which offers similar entries, though perhaps with less personal information and less geographical reach. This volume of *Who's Who* contains biographical entries for over 40,000 scientists, medical doctors, and engineers from 125 countries. The entries list the subject's name, occupation, vital statistics (including birthdate, names of parents, spouse, and children), education, certification, career statistics, awards, military service, achievements, religion, political affiliation, and addresses. Whenever possible, entries mention the title or a brief description of patents, patents pending, inventions, invention disclosures, discoveries,

designs, pioneering developments, and current research. Two indexes list the names by geography and by field. A few of the entries are of business executives and some social scientists.

TA169 0-7918-0233-7

**The reliability data handbook.**

Moss, T.R.

*ASME*, ©2005

287 p. \$159.00

Consulting engineer Moss describes methods for analyzing reliability data, from simply calculating failure rates and using histograms to using more complex analyses based on models. He presents the fundamentals and basic concepts, followed by definitions of component, equipment and system reliability. He examines failure data and models, discrete and continuous distributions, patterns of failure, distribution parameter estimation, Weibull analysis, repairable systems, generic reliability data requirements and sources, the "no-data problem" and data collection and its quality control. He includes references and a glossary.

TA174 2004-013305 1-56720-545-3

**Collaborative design and learning; competence building for innovation.**

Title main entry. Ed. by Jo<~a>o Bento et al. (International series on technology policy and innovation)

*Praeger*, ©2004

381 p. \$104.95

Twenty-two international academics and researchers contribute 14 chapters on new trends in design education and practice aimed to promote new design capabilities through collaborative and distance learning. Coverage includes the conceptual background behind the new perspectives; recent practices in the development of advanced tools and logistics for collaborative design demonstrating different applications in architecture, engineering, and construction; six case studies revealing a diversified range of experiences using remote collaborative design projects; and new ideas for design studios to expand the horizons of collaborative design.

TA174 0-7918-4704-7

**Computers and information in engineering division 2004; proceedings.**

*ASME International Mechanical Engineering Congress and Exposition (2004: Anaheim, CA)* (CED; v.9)

*ASME*, ©2003

155 p. \$80.00 (pa)

These 18 papers presented during the November 2004 meeting discuss the role of computing in engineering, computer-aided product development, internet-aided design and



manufacturing, and virtual environments. Topics include identifying undesired functions during conceptual design, an approach to product family planning based on hypergraph theory, modeling of haptic rendering for virtual bone surgery, agent-based distributed collaborative sourcing of stamped parts, and acceleration methods in the interactive design of a hydraulic missing nozzle. No subject index is provided.

TA174 2004-045850 0-8493-1180-2

### **Engineering design reliability handbook.**

Title main entry. Ed. by Efstratios Nikolaidis et al. CRC Pr., ©2005 — p. \$149.95  
Engineers, managers, and others in the aerospace, automotive, civil, industrial, nuclear, and ocean engineering industries as well as graduate students and researchers will be the main audience for this comprehensive handbook on the methods and applications of nondeterministic approaches (NDA) in industry. Initial chapters introduce NDAs, the transition from research to engineering design, the use of NDAs in mechanical design and in automotive design, and a research perspective in stochastic mechanics. Topics concerning recent advances include evidence theory for engineering applications, first-and second-order reliability methods, system reliability, time-variant reliability, Bayesian modeling and updating, and utility methods in engineering design. In addition to numerous American universities, the contributors are with institutions that include the Boeing Company, the Russian Academy of Sciences, Aalborg U. (Denmark), the U.S. Air Force, Vextec Corporation, General Motors Corporation, and Los Alamos National Laboratory. Nikolaidis is at the U. of Toledo, Ohio; his co-editors are Dan M. Ghiocel (Ghiocel Predictive Technologies, Inc.) and Suren Singhal (NASA Marshall Space Flight Center).

TA330 2004-016206 0-8194-5523-7

### **Field mathematics for electromagnetics, photonics, and materials science; a guide for the scientist and engineer.**

Maxum, Bernard. (Tutorial texts in optical engineering; v.TT64) SPIE, ©2004 — p. \$56.00 (pa)  
In this reference for students and professionals, Maxum (electrical engineering, optical communications, Texas State University) reviews the vector calculus needed for the physical sciences and engineering. The review includes necessary excursions into tensor analysis intended as an undergraduate reader's first

exposure to tensors. The book can be used as a supplement to an engineering or science course, a study guide before entering such courses, and as a reference manual in an R&D laboratory or design group. The book can also be used as a text if the instructor supplies problem sets.

TA345 2004-057423 0-7844-0760-6

### **Computational intelligence; from theory to practice; proceedings.**

ASCE Information Technology Symposium (2004: Baltimore, Md.) Ed. by Nii O. Attoh-Okine and W.M. Kim Roddis. Am. Society of Civil Engineers, ©2004 101 p. \$55.00 (pa)  
Eight papers link theory and practice in computational intelligence principles and tools as used in civil engineering. The topics include soft computing-based infrastructure life-cycle cost analysis tools, evolutionary programming in dowelled-concrete pavement, simulating pedestrian interactions, a distributed implementation of genetic algorithms for dynamic traffic routing, and optimizing dynamic roadway traffic control with parallel genetic algorithms and assessment of computational advantages.

TA353 2004-101303 1-85312-994-1

### **New solutions in contact mechanics. (CD-ROM included)**

Jaeger, J. WIT Press, ©2005 315 p. \$190.00  
This work presents analytical solutions and numerical algorithms for advanced elastic contact with friction engineering problems found in such dynamical examples as vehicle collisions or robot control. Fourteen chapters cover singular integral equations of plane contact problems, asymmetric contact problems, general load histories for Hertzian contact, frictional contact problems, equations and convergence considerations of the Gauss-Seidel method and numerical results of the method, equations and solutions of motion for impact problems, analytical solutions for tangential and torsional impact, and applications for ultrasonic motors and granular material. The CD-ROM contains a demonstration version of a boundary element algorithm for contact with friction. The US office of WIT Press is Computational Mechanics.



TA357 90-6764-409-9  
**Fast liquid-phase processes in turbulent flows.**

Minsker, K. S. et al.

VSP Publications, ©2004 179 p. \$167.00  
 Central to chemistry and applied chemistry are processes involving reagents resulting in substances' altered structure, composition, and aggregate state. Minsker (N.N. Semenov's Institute of Chemical Physics, Russian Academy of Sciences, Moscow) and Russian colleagues introduce computer modeling for safely simulating these complex reaction processes and their production technologies. After treating such topics as the classification of chemical reactors and formation of macro-structures in turbulent flows, they conclude that apparatus of divergent-convergent design is optimal for fast chemical or heat-mass-transfer processes. The volume lists 277 references but lacks an index. Translated by E. Yu. Kharitonova. Further editing for English clarity would have been helpful. VSP is a subsidiary of Brill Academic Publishers.

TA403 0-8247-5358-5  
**Soft materials; structure and dynamics.**

Dutcher, John R. and Alejandro G. Marangoni.

Marcel Dekker, ©2005 409 p. \$179.95  
 Dutcher (soft material science, University of Guelph, Canada) and Marangoni, editor-in-chief of *Food Research International*, provide an overview of current scientific and technological advancements in the analysis and application of soft materials. The book is divided into four sections on synthetic polymers, complex fluids, food materials, and biomaterials. In each section, both experimental studies and modeling efforts are presented. The book will be useful as an introduction to the study of soft material physics and as a reference for industrial and materials engineers.

TA409 2003-116914 1-85312-948-8  
**Crack dynamics.**

Title main entry. Ed. by A. Ivankovic and M. H. Aliabadi.

WIT Press, ©2005 210 p. \$133.00  
 Ivankovic (mechanical engineering, Imperial College of Science, Technology, and Medicine, UK) and Aliabadi (engineering, Queen Mary University, UK) present the work of leading scientists in the field of crack dynamics, covering analytical, experimental, and numerical aspects of dynamic fractures. Specific topics examined are the dual boundary element method for 3D dynamic crack problems, modeling of fracture processes during fast crack growth, transient

dynamic crack analysis in anisotropic solids, experimental and numerical investigations into the evolution of dynamic fractures in PMMA, and the mechanism of dynamic crack propagation. There is no subject index. The US office of WIT Press is Computational Mechanics.

TA418 90-6764-418-8  
**Computational methods in sciences and engineering (ICCMSE 2004); proceedings.**

Conference of Computational Methods in Sciences and Engineering (2004: Athens, Greece) Ed. by Theodore Simos and George Maroulis. (Lecture series on computer and computational sciences; 1)

VSP Publications, ©2004 1192 p. \$135.00 (pa)

A November 2004 conference brought together computational scientists from several disciplines in order to share methods and ideas. Papers from the conference, presented here, shed light on the latest work in the construction, development, and analysis of computational, numerical, and mathematical methods and their application in the sciences and engineering. Some specific topics include densification and dynamic canonical descent, a numerical solution of the Boussinesq equation using the Adomian method, determination of elastic buckling loads, phase-fitted Numerov type methods, and a computer simulation of hydrogen bonding in aqueous mixtures containing aprotic solvents. VSP is a subsidiary of Brill.

TA418 2004-066231 1-58321-347-3

**External corrosion and corrosion control of buried water mains. (CD-ROM included)**

Romer, Andrew E. et al.

American Water Works Assn., ©2004 1 5 9 p. \$263.00 (pa)

This report outlines the development of methods, protocols, and technologies for identifying the specific field conditions that lead to corrosion failures in water utilities. It identifies economical solutions appropriate for the waterworks industry for each type of external pipeline corrosion, and verifies promising techniques for the most prevalent problems through descriptions of the results of field trials. Emphasis is on the development of a generic corrosion control master plan and the use of a systematic risk-based approach to corrosion control in facilities with high costs and/or high probabilities of failure. The report is accompanied by a CD-ROM of four appendices. There is no subject index.

TA418 2004-021009 0-8194-5576-8

### **Metrics for high-quality specular surfaces.**

Baker, Lionel R. (Tutorial texts in optical engineering; v.TT65)

*SPIE*, ©2004 151 p. \$44.00 (pa)

In this tutorial for optical component and systems designers and quality assurance engineers and managers, Baker, a fellow of the Institute of Physics, provides a basic working knowledge of the definition, measurement, and standardization of a number of different metrics used to characterize high-quality specular surfaces. He covers both the traditional visual methods as well as newer computer-aided techniques, and describes the metrics adopted by the new ISO standards, including the setting of form and finish tolerances. Appendices cover quality metrics for digital cameras and surface cleaning, and a glossary is included.

TA418 2003-070906 0-8412-3859-6

### **Particle sizing and characterization.**

Title main entry. Ed. by Theodore Provder and John Texter. (ACS symposium series; 881)

*American Chemical Society*, ©2004 292 p.\$135.00

The size and character of particles, and their impact on product end- use properties, is of increasing importance in electronic, computer, nanoparticle materials, and other technologies. In this fourth of a series, Provder and Texter (both of Eastern Michigan U.) present 16 papers from an American Chemical Society symposium (date not noted) reflecting current activities in particle size measurement, characterization techniques, and applications. Light scattering methodologies (dynamic light scattering, multiple light scattering, turbidity, and fluorescence) are presented, followed by fractionation methods including ultracentrifugation and column chromatography techniques focused on nanoparticles. The collection concludes with a section covering particle characterization and discusses electrophoretic, electrokinetic, and acoustic attenuation methods to characterize surfaces and interfaces, particle-particle interactions, and concentrated dispersions. Distributed in the US by Oxford University Press.

TA418 2004-057911 0-07-143478-X

### **Braiding pultrusion technology; for advanced structural composites.**

Freger, G. E.

*McGraw-Hill*, ©2005 275 p. \$180.00

Drawing on recent experimental results, this volume defines the kinematic parameters of

braiding pultrusion of rod-like products based on polymer composites, and describes the primary dependencies for computing the structural and geometric parameters of such materials. It reports probable time and temperature regimes during molding, estimates their effects on the physicomaterial properties of the composites, and analyzes the force parameters of the combined process. The closing chapter discusses the application of rods produced by braiding pultrusion in roof bolting for excavation mining. Freger teaches at East Ukrainian National University, and Kestelman holds 75 U.S. and Russian patents.

TA462 2003-115031 1-57590-173-0

### **Erosion corrosion.**

Roberge, Pierre R. (Corrosion testing made easy) *Natl/Assn/Corrosion/Engrs*, ©2004 94 p.\$84.00 (pa)

In his contribution to the series primarily for entry level technicians, Roberge introduces concepts of electrochemistry and fluid dynamics in the context of erosion-corrosion and flow assisted corrosion in pipes in all kinds of systems. He reviews test methods that can provide means to qualify materials for use in flow intense situations, and explains how to use the principle of mass transfer equivalence to correlate results obtained from test methods and from field situations. The specific test methods are arranged by rotating systems<—>disk, cylinder, and cage<—>and flow systems<—>flow loop, nozzle or orifice, and impinging jet. The wire-  
ring binding opens flat.

TA462 0-87849-945-8

### **High temperature corrosion and protection of materials 6; proceedings; 2v.**

International Symposium on High Temperature Corrosion and Protection of Materials (6th: 2004: Les Embiez, France) Ed. by P. Steinmetz et al. (Materials science forum; v.461-464)

*Trans Tech Publications*, ©2004 1212 p.\$319.00

This two-volume set contains papers from the May 2004 conference, which was the Sixth International Symposium on the topic in a series held on a three- or four-year cycle. The main theme was high-temperature corrosion issues of current interest for gas turbines (land-based and aircraft) as well as for the power generation (coal combustion, gassification, nuclear, diesel engines), incineration, and process industries. The 144 papers fall into eight themes: high-temperature corrosion and protection in aggressive environments; high-temperature

coatings; high-temperature alloys and intermetallics; spalling and mechanical aspects; the role of water vapor and steam on high-temperature corrosion; ceramics and composites; land-based gas turbines, diesel engines, boilers, incinerators...; and the nuclear industry<—>fuel cells, exhaust systems, and filtration. Distributed in the US by Enfield.

TA480 2004-052923 0-87170-803-5

**Aluminum alloy castings properties, processes and applications.**

Kaufman, J. Gilbert and Elwin L. Rooy.

ASM International, ©2004 340 p. \$199.00

The two veterans of many decades in the aluminum industry provide what they intend to be a comprehensive summary of the physical and mechanical properties of most types of aluminum alloy castings. They also discuss the factors that affect those properties, including composition, casting process, microstructure, soundness, heat treatment, and densification. Previously unpublished technical data is presented on aging response, growth, fatigue, and high-temperature and low-temperature performance. The casting process technologies they consider are intentionally limited to typical capabilities and their influence on property performance, and their coverage of the economics of aluminum casting is very general.

TA652 0-86341-350-1

**Variable structure systems; from principles to implementation.**

Title main entry. Ed. by Asif Sabanovic et al. (IEE control engineering series; 66)

IEE, ©2004 409 p. \$109.00

Sabanovic (electrical engineering and computer science, Sabanci University, Turkey) covers basics of sliding mode control, new trends in the field, and applications, in this reference for all engineers working with control systems. Mathematical and engineering concepts are discussed and many numerical design examples are included so that readers can quickly understand the design methodologies and their application to practical problems. Coverage encompasses the necessary background for designing a variable structure controller/estimator, as well as applications in motion control, fuzzy networks, and power electronics. The book is distributed in the US by Books International.

TA658 0751-7

**Primer on seismic isolation.**

Title main entry. Ed. Andrew W. Taylor and Takeru Igusa.

Am. Society of Civil Engineers, ©2004 58 p. \$29.00 (pa)

This succinct text was prepared by members of the American Society of Civil Engineer's Task Committee on Seismic Isolation, who represent a wide range of structural engineering firms and academic institutions. Written for structural engineers and other design professionals, the primer provides an understanding of the basic concepts of seismic isolation, describes the current state of seismic isolation technology, and highlights issues and concerns that are unique to the design of isolated structures. Illustrated with b&w photographs and diagrams.

TA660 1369-4

2004-051972 0-8493-

**Pressure vessels; design and practice.**

Chattopadhyay, Somnath. (Mechanical engineering; 25)

CRC Pr., ©2005

185 p. \$149.95

Designing pressure vessels, including those subjacent to the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, is tricky work, especially when there are no textbooks on the subject. Chattopadhyay (Bell State U.) bridges the gap by addressing the principles of design of pressure vessels for power generation and process equipment. His topics include design philosophy and criteria, stress categories and limits, shells, heads and covers, nozzles and openings, fatigue, bolted flange connections, and supports. He includes case studies, exercises and appendices on solid mechanics, fatigue and fracture mechanics, and limit analysis. Although Chattopadhyay is writing for senior and graduate engineering students, he believes practicing engineers will find this book helpful in meeting the ASME codes for pressure vessels.

TA703

90-5966-009-9

**Geotechnical and geophysical site characterization; proceedings; 2v.**

International Conference on Site Characterization (2d: 2004: Porto, Portugal) Ed. António Viana da Fonseca and Paul W. Mayne.

Millpress Science Publishers, ©2004 1 9 1 0 p. \$234.00

The 219 papers of this proceedings were first presented at the Second International Conference on Site Characterization, held in September 2004 in Porto, Portugal. The Mitchell Lecture (by H-S. Yu) and ten keynote papers



are included, on topics that include *in-situ* test characterization of unusual geomaterials, deformation properties of fine-grained soils from seismic tests, characterization of Venice lagoon silts from *in-situ* tests, and characterization of soft sediments for offshore applications. The technical papers are divided into sections on mechanical and geophysical methods, innovative technologies and equipment, and new developments in interpretation. The papers frequently refer to case studies of projects in various locales, including drilled shafts, pilings, shallow foundations, earth dams, and tunnels. The contributors are engineers at universities and with private concerns worldwide. Each essay includes a list of references. Based in the Netherlands, Millpress Science Publishers does not have a US distributor.

TA1632 2004-111376 0-7695-2244-0

### Image and graphics; proceedings.

International Conference on Image and Graphics (3rd: 2004: Hong Kong, China)  
Computer Society Press, ©2004 588 p. \$215.00 (pa)  
Papers from a December 2004 conference describe the practical experiences of researchers and practitioners from academia and industry who are working on applications of image and graphics technologies. Image processing, analysis, and understanding, biometrics, multimedia, computer graphics, and virtual reality are some areas explored. Specific subjects examined include hybrid Chinese/English text identification in Web images, real-time environment map interpolation, virtual grasping for virtual assembly tasks, automatic thresholding for defect detection, replay detection on broadcasting sports video, and fast recursive mathematical morphological transforms. There is no subject index.

TA1700 0-7503-0726-9

### Diode lasers.

Sands, D. (Series in optics and optoelectronics)  
IOP Publishing Ltd., ©2005 451 p. \$55.00 (pa)  
Diode lasers are the workhorses of optical devices. They are compact, efficient, reliable, and relatively inexpensive, and they lend themselves to commercial and mass-market devices. Recently they are finding use in biomedicine and materials processing. Sands (physics, U. of Hull) describes the various operating principles and diode laser types and applications, starting with semiconductor physics, laser fundamentals, and optical properties of semiconductor materials. He describes the double heterostructure laser,

quantum well lasers, and the vertical cavity surface emitting laser. From there he describes lightwave technology and fiber communications, high power diode lasers, blue lasers and quantum dots, and quantum cascade lasers. He includes exercises with each chapter. Distributed in the US by AIDC.

## HYDRAULIC ENGINEERING

TC555 0-8247-5789-0

### Hydraulics of spillways and energy dissipators.

Khatsuria, Rajnikant M. (Civil and environmental engineering)  
Marcel Dekker, ©2004 649 p. \$199.95  
This reference for researchers, designers, practicing engineers, and students highlights developments in the theory and practice of the hydraulics of spillways and energy dissipators, with emphasis on topics related to scale effect, dynamic flow measurement, and the analysis and interpretation of model results. Sections are devoted to spillways, energy dissipators, cavitation and air entrainment, and hydraulic modeling. Focus is on discussing the hydraulics of different types of spillways and energy dissipators and illustrating applications to practical design problems. Khatsuria is retired from the Central Water and Power Research Station in Pune, India.

## ENVIRONMENTAL TECHNOLOGY

TD145 2004-051872 1-56670-681-5

### Environmental engineer's mathematics handbook.

Spellman, Frank R. and Nancy E. Whiting.  
CRC Pr., ©2005 644 p. \$129.95  
In this unique combination of disciplines, Spellman and Whiting have succeeded in integrating advanced mathematics, natural processes, and environmental engineering processes. The result is intended to serve as both a textbook for students and a reference for practitioners. They begin with fundamental mathematical computation and modeling, followed by a review of chemical and physical science and statistics. They examine math concepts in air pollution control, water quality, and wastewater/stormwater engineering. They also provide references for each chapter and a wide range of examples.



TD170  
359-9

2003-023705 1-58829-

**Advanced air and noise pollution control.**

Title main entry. Ed. by Lawrence K. Wang et al. (Handbook of environmental engineering; v.2) Humana Press Inc., ©2005 526 p. \$175.00 This companion to *Air Pollution Control Engineering* is presented as a basic air pollution control design textbook, as well as a reference book covering the fundamental chemistry, physics, and mathematics foundations of engineering practice. Wang (Lenox Institute of Water Technology), Pereira (retired, Monsanto Company), and Hung (civil and environmental engineering, Cleveland State U.) present 12 chapters discussing atmospheric modeling and dispersion, desulfurization and emissions control, carbon sequestration, control of NO<sub>x</sub> during stationary combustion, control of heavy metals in emission streams, ventilation and air conditioning, indoor air pollution control, odor pollution control, radon pollution control, cooling of thermal discharges, performance and costs of air pollution control technologies, noise pollution, and noise control.

TD194  
523-2

2004-011897 1-56720-

**Environmental disclosure practices and financial performance.**

Title main entry. Ed. by Khondkar E. Karim and Robert W. Rutledge. Praeger, ©2004 133 p. \$79.95 Karim (accounting, Rochester Institute of Technology), Rutledge (accounting, Southwest Texas State U,) and contributors provide up-to-date information about environmental disclosure issues in business. In five chapters, contributors examine legislation, liability and regulation, and how disclosure affects financial statements, public accountability, and organizational change. Contents include an examination of whether a decade of environmental reporting has been accurate or effective, a study of disclosures in annual reports compared to the perceptions of those who read them, a survey of corporate environmental officers about what was disclosed to stakeholders, a review of approaches to developing effective environmental management accounting and reporting systems and an examination of how public environmental accountability changes organizational behavior. Chapters include their own references.

TD195  
146-9

2004-052187 1-57477-

**Offshore oil and gas environmental effects monitoring; approaches and technologies.**

Title main entry. Ed. by Shelley L. Armsworthy et al. Battelle Press, ©2005 631 p. \$87.50 Papers presented here, which originated at a May 2003 workshop held at the Bedford Institute of Oceanography in Nova Scotia, Canada, describe regional experiences from past and ongoing environmental effects monitoring (EEM) programs, look at environmental management issues such as risk assessment and decision-making processes, examine the development of predictive risk assessment models, and outline new approaches and technologies for monitoring potential alterations in benthic, pelagic, and tropospheric ecosystem components. Readership includes scientists, environmental managers, regulators, and industry representatives. Editor information is not given.

TD201  
145305-9

2004-061622 0-07-

**GIS implementation for water and wastewater treatment facilities.**

Title main entry. Ed. by Water Environment Federation. (WEF manual of practice; no.26) McGraw-Hill, ©2005 242 p. \$85.00 A research team from the Federation offers professional guidelines for developing data, software, and work practices for using geographical information systems (GIS) to provide spatial information about water facilities. Speaking to managers of water and wastewater municipalities, consultants, and city engineers and planners, They discuss such aspects as the current and potential state of GIS, the benefits of using one, planning, data conversion and database development, enhancing productivity through applications development, maintenance, change management, related technologies and systems integration, and technology and obsolescence management.

TD201  
145303-2

2004-061046 0-07-

**Upgrading and retrofitting water and wastewater treatment plants.**

Title main entry. Ed. by Water Environment Federation. (WEF manual of practice; no.28) McGraw-Hill, ©2005 230 p. \$85.00 Such plants need to be upgraded about every 20 to 30 years, which means that most owners have had no experience with the process. This report for plant managers, consultants, municipal officials, and plant staff explains such aspects

of the project as how to procure an engineer; how to develop a scope of service for the facility plan, design, and construction services; how to evaluate engineering proposals; and how to interact with the engineer during each phase. It also suggests what can be expected during construction, what to expect during startup, and simply how to survive the process.

TD345 1-900222-52-3  
**Water auditing and water conservation.**

Sturman, Jeffrey et al.

IWA Publishing, ©2004 322 p. \$144.00

While quite a few consultants and industry professionals were actually conducting water audits, Sturman (environmental science), Goen Ho (environmental engineering, and Kuruvilla Mathew (environmental technology) realized there was no systematic treatment of demand-side auditing. They developed a series of lectures on it at their home institution, Murdoch University, Perth, Australia, and from that derived this reference. Drawing from the dry conditions in Australia, they locate water auditing within a comprehensive framework relating it to water conservation and environmental auditing; indeed they suggest that water auditing might well be called quantitative water conservation. In addition to describing general tools and concepts, they look at water auditing in a wide range of industrial and commercial contexts, and in domestic and municipal use in large and small communities.

TD345 2004-059268 0-07-144381-9

**Water resources systems management tools.**

Title main entry. Ed. by Larry W. Mays.

McGraw-Hill, ©2005 — p. \$130.00

Mays (civil and environmental engineering, Arizona State University) provides tools for forecasting water use and availability and for the system-wide management of water resources. Primary focus is on the use of optimization techniques, in many cases interfaces with simulation models, to operate systems such as river-reservoir systems, irrigation canals, and water distribution systems. A second major focus is the use of uncertainty and reliability analysis for the analysis of water systems. Readership for the book includes engineers, managers, operators, and analysts involved with the various aspects of analysis and operation of water resource systems. The book can also be used as a test for graduate courses in water resource systems analysis.

TD345

98-24877 1-55963-812-

5

**The world's water 2004-2005; the biennial report on freshwater resources.**

Gleick, Peter H.

Island Press, ©2004

362 p. \$35.00 (pa)

Water is life, but as human lives grow in number and expectations, the amount of water that can sustain them shrinks. Gleick (Pacific Institute for Studies in Development, Environment and Security) examines this situation from the overall intentions of the Millennium Development Goals (MDGs) on down to the bottle of water on supermarket shelves, concentrating on the situation in California. He and his contributors find inadequate commitment to the MDGs, resulting in diseases and death, confusing regulations about bottle water and tap water that may make tap water actually safer, privatization efforts that may or may not provide clean water, groundwater that exists in various jurisdictions under various conditions, and efforts to conserve residential and commercial water supplies. They close with information on changes in climate and how they should be considered in water policy. They include brief papers on the third World Water Forum, the human right to water, references linking water and climate, and security. They also include an extensive data section giving information on freshwater worldwide.

TD384

92-4-156251-X

**Safe piped water; managing microbial water quality in piped distribution systems.**

Title main entry. Ed. by Richard Ainsworth. (WHO drinking-water quality series)

IWA Publishing, ©2004 147 p. \$108.00

The widespread adoption of pressurized pipe networks has contributed to a reduction in water-related diseases and also reduced the burden of water collection in villages and towns around the world. However, when contamination with pathogens does occur in a piped network, it can be hard to trace and remedy. Editor Ainsworth (United Kingdom Water Industry Research, London) presents a review of the factors affecting the growth of microorganisms in piped networks and the practices that can directly or indirectly influence their presence and growth. The intended audience is policymakers and those responsible for formulating drinking water safety plans as well as engineers and scientists involved in water supply planning, operations, and monitoring.

- TD418 2003-096327 0-9664170-6-2  
**Rainwater collection for the mechanically challenged, 2d ed.**  
 Banks, Suzy.  
*Tank Town Publishing*, ©2004 108 p. \$18.95 (pa)  
 Stating that "boy, have we learned a lot since then" (i.e., the 1997 edition), the authors share amusing anecdotes of their experiences as well as practical tips on collecting rainwater. Illustrations and b&w photos show the necessary equipment and set-up for becoming water-independent. They include pricing information. Banks' husband installs rainwater collection systems for a living in Dripping Springs(!), Texas.
- TD427 1-84339-069-8  
**Water treatment and pathogen control; process efficiency in achieving safe drinking water.**  
 LeChevallier, Mark W. and Kwok-Keung Au. (WHO drinking-water quality series)  
*IWA Publishing*, ©2004 112 p. \$99.00  
 This work provides background to the development of the third edition of the WHO Guidelines for Drinking Water Quality. It is intended to provide a critical analysis of the literature on removal and inactivation of pathogenic microbes in water to aid water quality specialists and design engineers in making decisions regarding microbial water quality. Chapters cover nine types of removal processes, inactivation (disinfection) processes, performance models, treatment variability, and process control.
- TD434 2004-061109 0-07-141872-5  
**Water treatment plant design, 4th ed.**  
 Title main entry. Ed. by American Water Works Association, American Society of Civil Engineers.  
*McGraw-Hill*, ©2005 — p. \$125.00  
 A joint effort of the American Water Works Association and the American Society of Civil Engineers, this is the new edition of a manual of engineering practice in water treatment plant design first published in 1939 and incorporating developments in pretreatment and filtration processes since the 1969 edition. Thirty chapters cover intake facilities, aeration and air stripping, high-rate granular filtration, oxidation and disinfection, ion exchange applications in water treatment, membrane processes, chemicals and chemical handling, process instrumentation and controls, operations and maintenance considerations, cost estimating, and ultraviolet disinfection, among other topics.
- TD779 2004-013587 1-57278-191-2  
**Operation of extended aeration package plants, 2d ed.**  
 Title main entry. Operation of Extended Aeration Package Plants Task Force of the Water Environment Federation. (WEF manual of practice; no.OM-7)  
*Water Environment Federation*, ©2004 1 7 5 p.\$49.95 (pa)  
 The extended aeration process is a variation of the activated sludge waste water treatment process, and is widely used in small plants, many of which are prefabricated and shipped to a construction site as one unit. This manual is for operators of a treatment plant with a design flow of up to five liters per second (100,000 gpd), typically without a laboratory or operations building on the site. The chapter on advanced unit processes was not updated for the second edition. This second edition is an update of the 1985 manual.
- TD883 2004-014594 0-309-08932-8  
**Air quality management in the United States.**  
 Ed. by Committee on Air Quality Management in the United States, Board on Environmental Studies and Toxicology, Board on Atmospheric Sciences and Climate, Division on Earth and Life Studies.  
*National Academies Press*, ©2004 401 p.\$49.95  
 In this report, the committee examines the current state of air quality management (AQM) and ways to meet the needs of the nation in the future. They describe air pollution science and the impact of air pollution on health, the role of science, the goals, strategies and standards for air quality management, and the scientific bases for setting those standards. They examine designing and implementing control strategies through the state implementation plan (SIP), implementing controls on mobile and stationary sources, measuring progress and assessing benefits of AQM, and transforming the nation's AQM system to meet future challenges. The appendices include a list of 188 hazardous air pollutants.
- TG335 2003-068820 0-7844-0560-3  
**Handbook of concrete bridge management.**  
 Branco, Fernando A. and Jorge de Brito.  
*Am. Society of Civil Engineers*, ©2004 4 6 8 p.\$180.00  
 Two civil engineering professors with the Technical University of Branco and Brito present



the main steps for analyzing concrete bridges from design to service in terms of durability, with the goal of establishing a new integrated approach to increasing the life span of bridges. The handbook explains procedures for testing materials and monitoring bridges, provides guidelines for designing durability into the bridge's structural components and construction methods, and defines a bridge management system for collecting data, standardizing inspection, and making decisions. Example management systems currently used in North America and Europe are described. The final section develops a bridge global life cycle cost function and a software algorithm for calculating it.

## BUILDING CONSTRUCTION

TH425 2004-015428 0-471-43204-0

### **Construction specifications writing; principles and procedures, 5th ed.**

Rosen, Harold J. et al.

*John Wiley & Sons*, ©2005 428 p. \$80.00 (pa)

Now retired, Rosen began his career as a construction specification writer in 1942; Regener is an architect and independent specifications writer with some 32 years of experience in the field. Designed for students and practicing design professionals in architecture and engineering, their text covers the principles and procedures for organizing and producing construction specifications. The thoroughly revised fifth edition reflects current practices according to the principles and requirements of major professional associations, including the American Institute of Architects, the Engineers Joint Contract Documents Committee, and the Construction Specifications Institute. Specific changes are not stated.

TH438 2003098216 0-9719872-1-1

### **Preparing projects for site construction; smart practices for profitable land development.**

Johnston, Roderick D. (Project logic series; book 2)

*Trans Mountain Publishing*, ©2004 415 p. \$49.95 (pa)

Intended for project managers and owners, this book focuses on the narrow, inner workings of land development and preparation for structures as it applies to the site-work phase of construction. It offers advice on choosing consultants, pre-construction surveying and site measurement, fire control planning, route and

slope analysis, dealing with dry utilities, coping with hazmat and contaminated soils, and recycling on-site products. The longest chapter addresses site work cost estimating.

## MECHANICAL ENGINEERING & MACHINERY

TJ163 2004-013404 1-902916-49-2

### **Energy performance of residential buildings; a practical guide for energy rating and efficiency. (CD-ROM included)**

Title main entry. Ed. by M. Santamouris.

*Earthscan Publications Ltd.*, ©2005 139 p. \$110.00

Nine specialists from the U. of Athens, the Belgium Building Research Institute, the Royal Technical U. of Stockholm, and the U. of Seville contribute to a collaborative text based on the EC-funded SAVE project entitled EUROCLASS. They examine the new European experimental and theoretical methodology for assessing and rating the energy efficiency and performance of dwellings. Following discussion of selected theoretical and experimental methodologies, experimental protocols, and normalization techniques, the text describes the EUROTARGET software developed for the project, and presents case studies of its application in Belgium, Greece, Spain, Sweden. The accompanying CD-ROM contains the software, prepared in Excel, which can be applied using both deterministic and experimental methods, and is adaptable to national peculiarities and energy policy criteria. Oversize: 8.5x12". Distributed in the U.S. by Stylus.

TJ211 2004-049656 0-8493-1804-1

### **Robotics and automation handbook.**

Title main entry. Ed. by Thomas R. Kurfess.

*CRC Pr.*, ©2005 — p. \$129.95

Kurfess (precision engineering, Lawrence Livermore National Laboratory) addresses major aspects of designing, fabricating, and enabling robotic systems and their various applications. He begins by presenting kinetic and dynamic methods for analyzing robotic systems, then develops several control approaches, including servo actuation, hybrid control, and trajectory planning. Design aspects covered include specifications, configuration, and the use of sensors and actuators. Applications focus on how specific difficulties are overcome in the development of a robotic system.



TJ213      2004-013086   1-55617-896-4  
**Control system documentation; applying symbols and identification, 2d ed.**

McAviney, Thomas and Raymond Mulley.  
 ISA, ©2004      231 p. \$72.00 (pa)  
 Instrument symbols and identifiers are critical in designing and describing control systems, but sometimes personal or corporate idiosyncrasies can make deciphering them difficult. The authors, who are experienced practitioners, approach this type of documentation systematically, describing its importance as a tool of communication. They show the basic symbols and how these symbols work in situations such as functional identification, function designation, parallel and serial loop numbering, and coding. They then describe how to develop process flow diagrams and apply them to structured control concepts in feedback control, decoupling, load balancing and switched controls. They examine variants such as engineering flow diagrams, loop diagrams, logic diagrams, ladder diagrams and wiring diagrams. They conclude with the installation and finishing details. Throughout they use case studies, summaries, and lists of questions.

TJ217      2004-101287   1-58603-414-6  
**Intelligent autonomous systems 8; proceedings.**

International Conference on Intelligent Autonomous Systems (8th: 2004: Amsterdam, Netherlands) Ed. by Frans Groen et al.  
 IOS Press, ©2004      1180 p. \$228.00  
 A March 2004 conference united researchers working on intelligent systems that can directly sense and act in their own environment without demanding detailed supervision from humans. Papers from the conference are presented here, in sections on biologically inspired systems, cooperative robotics, distributed decision making, learning and adaptive systems, mobile robot navigation, path and motion planning, reconfigurable/modular robots, robotic and autonomous systems, robot vision, sensing and data fusion, and service robotics. Some specific topics include the use of hybrid maps for mobile robots, bias-optimal incremental learning of control sequences for virtual robots, and a multi-segment inspection robot and its physical real-time simulation. There is no subject index.

TJ260      2004-022614   1-56700-203-X  
**Thermal radiation fundamentals. (CD-ROM included)**

Hollands, K. G. Terry. (Series in thermal and fluid physics and engineering)  
 Begell House, ©2004      341 p. \$99.00  
 This graduate textbook introduces the radiative transfer equation and the volumetric treatment of radiation, then focuses on thermal radiation as a surface phenomenon. Holland (emeritus, University of Waterloo) explains the electromagnetic wave theory for determining the radiative properties of smooth interfaces, and addresses the problem of finding heat transfer in an enclosure bounded by walls having opaque surfaces or some reflective surfaces. The CD-ROM contains a demonstration version of Mathcad 11.

TJ289      2004-53290   0-8247-4290-7  
**Boiler operator's handbook.**

Heselton, Kenneth E.  
 Marcel Dekker, ©2005      405 p. \$149.95  
 This practical reference provides guidelines for writing boiler start-up and operation procedures, and maintaining lubricated equipment, insulation, refractory, packing, controls, instrumentation, lighting, and electrical equipment. Heselton, a retired boiler plant designer, shares his experiences predicting boiler loads, calculating boiler efficiency, analyzing fuels, treating water, testing safety valves, and adjusting firing rate control. He also describes the various types of boiler plants, water circulation methods, boiler construction approaches, heat traps, burners, pumps, fans, and blowers. A few black and white photographs are provided. Co-published with Fairmont Press (ISBN 0-88173-434-9).

TJ289      2004-058472   0-07-143202-7  
**Power boiler design, inspection, and repair; ASME code simplified.**

Malek, Mohammed A.  
 McGraw-Hill, ©2005      628 p. \$89.95  
 Intended neither as a replacement for the codebook nor a substitute for professional advice, this guide comprehensively covers the technology in a practical way accessible to technical personnel, with safety always at the forefront. Coverage includes types, materials, design, piping, safety relief valves, fabrication, ship inspection, stamping and data reports, auxiliaries and appurtenances, fuel systems, controls, installation, operation, in-service inspection, maintenance, and repair. A chapter on water treatment has also been included. The author has been involved with the ASME and its

codes for 20-some years, and he combines research with his own practical experience.

TJ405 2004-059228 0-07-141846-6

**Steam plant operation, 8th ed.**

Woodruff, Everett B. et al.

McGraw-Hill, ©2005 850 p. \$89.95

This eighth edition of a popular reference on steam power plant systems and operation contains updates on topics such as fluidized bed boilers, combined cycle systems, environmental systems for control of SO<sub>2</sub>, NO<sub>x</sub>, and particulates, fuel and ash handling systems, coal storage domes, and plant auxiliary systems. Combining theory and practice, the reference provides common power plant calculations as well as content on methods for operating equipment found in power plants. The book will be especially useful for operators studying for licensing exams. Woodruff was a project engineer.

TJ810 0-7918-3747-5

**Solar engineering 2004; proceedings.**

International Conference on Solar Energy (2004: Portland, OR)

ASME, ©2004 728 p. \$300.00 (pa)

The ASME International Solar Energy Conference was a part of another conference titled "Solar 2004<—>A Solar Harvest: Growing Opportunities," held July 2004, in Portland, Oregon, involving numerous organizations supporting conservation, and solar and renewable energy. Approximately 90 papers address various aspects of the following topics: conservation and solar buildings, fundamentals and theory, heating and cooling applications and analysis, photovoltaics, solar chemistry and bioconversion, solar thermal power, and testing and measurement. There is no subject index.

TJ935 2004-012436 1-55617-871-9

**Industrial flow measurement, 3d ed.**

Spitzer, David W.

ISA, ©2005 443 p. \$92.00

Appropriate for both engineers and sales staff, this textbook reviews fluid properties and measures of flowmeter performance, describes the operation and attributes of the various flowmeter technologies, and provides guidelines for selecting the appropriate flowmeter for each industrial application. Separate chapters are devoted to differential pressure, magnetic, mass, oscillatory, positive displacement, thermal, turbine, ultrasonic, and insertion flowmeters. The second edition was published in 1990.

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**ELECTRICAL ENGINEERING,  
ELECTRONICS, NUCLEAR  
ENGINEERING**

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TK454 0-19-567001-9

**Linear circuits; analysis and synthesis.  
(CD-ROM included)**

Ramakalyan, A.

Oxford U. Press, ©2005 642 p. \$54.50 (pa)

Ramakalyan (instrumentation, National Institute of Technology, Tiruchirappalli) offers this text for core courses in electrical circuit and network theory, with an emphasis on the development of the basic ideas of electrical engineering. He covers the basic elements such as the anatomy of a circuit, graphs and networks in circuits, the analysis of resistive circuits, and dealing with transients with energy storage elements. His topics also include sinusoidal sources and response, frequency response of networks, power circuits, two-part parameters, synthesis of networks, operational amplifiers, Fourier analysis of signals and circuits, and general linear systems. Ramakalyan includes a tutorial on SPICE (supported by the accompanying CD-ROM) and material on laboratory experiments, solutions of linear systems of equations, and the Routh-Hurwitz Criterion. The CD-ROM also includes hints and answers to the exercises in the text.

TK1005 2004-054871 0-07-144779-2

**Power system load flow analysis.**

Powell, Lynn.

McGraw-Hill, ©2004 181 p. \$79.95

Powell, a retired electrical engineer, breaks down the complex tasks involved in the mathematical modeling of complicated power grids into short segments, making computational tools easier to grasp and use. He derives well-known major algorithms and shows how they are deployed in software used in the planning and management of electric power networks. Coverage progresses from system representation through the Jacobi method, z-matrix methods, Newton-Raphson methods, voltage control, results output, and solution difficulties.

TK1005 0-471-63168-x

**Risk assessment of power systems;  
models, methods, and applications.**

Li, Wenyuan. (IEE Press series on power engineering)

Wiley-IEEE Press, ©2005 325 p. \$110.00

Li, an engineer and an IEEE Fellow, closes the gap between risk theory and real-world application in this guide for engineers and managers in electric utilities. He book explains

how to evaluate power system risk in planning, design, operations, and maintenance activities to keep risk at targeted levels. The book begins with an introduction to concepts in power system risk, then discusses modeling and methodology, and describes practical applications that reflect actual issues facing the utility industry. Appendices provide mathematical elements, power system models, and probability distribution tables.

TK1005 2004-051935 0-8493-3035-1

### **Uninterruptible power supplies and active filters.**

Emadi, Ali et al. (Power electronics and applications series)

CRC Pr., ©2005 276 p. \$99.95  
Emadi (electrical engineering, Illinois Institute of Technology) compares the similarities of uninterruptible power supplies (UPS), active filters, and unified power quality conditioners and describes low-cost and reduced-parts configurations that are used in industry to reduce the cost of power management. Explanations are supplemented with simulated examples and equations. Readership for the book includes industrial engineers in power quality, circuits, and devices, and aerospace engineers, as well as graduate students in engineering.

TK2511 2004-274124 0-7645-4198-6

### **Audel electric motors, 6th ed.**

Miller, Rex and Mark Richard Miller.

John Wiley & Sons, ©2004 704 p. \$29.99 (pa)  
Rex Miller, a former professor of industrial technology, and Mark Richard Miller, (industrial technology, Texas A&M University) provide information on installing, repairing, and maintaining any type of electric motor. Using a minimum of math, the book covers principles of motor function, choosing and replacing motors, identifying and repairing common problems, performing routine maintenance, and other areas. B&w photos and illustrations, plus chapter summaries and review questions, are included. The book will be useful for electricians, industrial maintenance personnel, and installers. This sixth edition is revised and updated.

TK2551  
144785-7

2004-061001 0-07-

### **Transformers.**

Title main entry. Ed. by Bharat Heavy Electricals Limited.

McGraw-Hill, ©2005 614 p. \$115.00  
This rigorous tutorial details design methods for the design, manufacture, operation, and maintenance of every major type of transformer, providing the cost-effective solutions engineers need for improved fault-resistance and greater load capacity. Some areas covered are materials and specifications, controlled shunt reactors, design and manufacture of short-circuit-proof transformers, high-voltage bushings, and automated and computerized productivity enhancements. Solved examples illustrate the design aspects of power transformers. The book will serve as a reference for practicing engineers and students.

TK3001 2004-061623 0-07-144783-0

### **Electric power distribution.**

Pabla, A. S.

McGraw-Hill, ©2005 878 p. \$130.00  
Writing for engineers, regulatory commissions, and consultants, as well as for students (each chapter includes practical problems), Pabla, a former chief engineer with the Punjab State Electricity Board, provides a comprehensive handbook. The aim is to avoid power reductions and failures and to meet the challenges of new technologies, greater loads, maintenance issues, and privatization. After coverage of power systems and electricity forecasting, he addresses system planning, design and operation, distribution automation, optimization reliability, consumer services, tariffs and billing, grounding, overhead lines and underground cables, rural supply, and system maintenance and protection, among other topics. (We don't learn, however, how to keep greedy gamers from hijacking the system as was done in California.) The book was originally published by Tata McGraw-Hill, New Delhi, India, in 1981, with subsequent updated editions through 2004.

TK5102 2004-042240 0-471-67624-1

### **Nonlinear signal processing; a statistical approach. (CD-ROM included)**

Arce, Gonzalo R.

Wiley-Interscience, ©2005 459 p. \$79.95  
Arce (electrical and computer engineering, U. of Delaware) describes nonlinear and non-Gaussian processes and offers an array of optimal and adaptive tools based on those of Wiener and



Widrow. He begins by describing non-Gaussian random processes, statistical foundations, and the filtering problem, then works through statistical functions such as non-Gaussian models, order statistics, and the statistical foundations of filtering. He continues by examining signal processing with order statistics, including median and weighted median smoothers, weighted median filters, and the linear combination of order statistics, and concludes by describing signal processing with the stable model—including using myriad smoothers and weighted myriad filters. The book includes problems to solve, a software guide, and a CD-ROM with over 60 MATLAB m-files.

TK5103 0-7695-2290-4

**Wireless on-demand network systems and services (WONS 2005); proceedings.**

Conference on Wireless On-demand Network Systems and Services (2d: 2005: St. Moritz, Switzerland)

IEEE Press, ©2004 266 p. \$186.00 (pa)

As this technology grows, so does the depth and breadth of its scholarship. These proceedings of the January 2005 conference include over 30 papers chosen for presentation, including three on the socio-economic impact of wireless on-demand network systems. Other general topics include applications, services and data dissemination; architecture and protocols, energy and power management; analysis through simulation and experimental evaluation; and localization and mobility. Papers include their own references and the editors provide an author index.

TK5103 2004-008491 0-471-67421-4

**Advanced RF engineering for wireless systems and networks.**

Hussain, Arshad.

Wiley-Interscience, ©2005 551 p. \$135.00

Hussain (radio frequency engineering, Stevens Institute of Technology) provides a primer for professionals involved in the design of next-generation wireless and satellite communications systems and networks. Intended for advanced undergraduate and graduate students as well as practicing radio frequency (RF) designers and electrical engineers, the book deals with the analysis and design of RF integrated circuits and systems. It begins with background knowledge from microwave and communication theory, and leads readers to the design of RF transceivers and circuits. Each chapter is divided into sections dedicated to first-, second-, and third-generation systems.

TK5103  
64953-8

2004-042040 0-471-

**Digital communication over fading channels, 2d ed.**

Simon, Marvin Kenneth and Mohamed-Slim Alouini. (Wiley series in telecommunications and signal processing)

John Wiley & Sons, ©2005 900 p. \$195.00

Adding new material on transmit diversity and space-time coding and the associated multiple input-multiple output (MIMO) channel, Simon (Jet Propulsion Laboratory, California Institute of Technology) and Alouini (electrical and computer engineering, University of Minnesota) describe coherent and noncoherent communication systems and a variety of fading channel models typical of communication links found in the real world. An approach to performance analysis, based on the moment generating function, forms the backbone of the book's presentation. The readership for the book includes graduate students, researchers, and engineers.

TK5103  
449-9

2004-296743 981-238-

**The physics of communication; proceedings.**

Solvay Conference on Physics (22d: 2001: Delphi Lamia, Greece) Ed. by I. Antoniou et al.

World Scientific, ©2003 642 p. \$154.00

Edited by Antoniou (International Solvay Institutes for Physics and Chemistry, Belgium; Aristotle U. of Thessaloniki, Greece), the volume includes 44 papers presented at the conference held in November 2001. It also contains opening addresses by the Greek Minister of Culture and J. Solvay, who comments on the 90-year history of the Solvay conferences' contributions to fundamental problems in modern physics. International contributions discuss challenging issues facing communication, information processing, and computation relating to quantum theory: e.g., irreversibility, nonlocality, and photonics. The volume includes photos of participants of the first and current conferences. Lacks an index.



TK5103 2004-115402 0-7354-0216-7

**Quantum communication, measurement and computing; proceedings. (CD-ROM included)**

Int'l Conference on Quantum Communications, Measurement and Computing (7th: 2004: Glasgow, United Kingdom) Ed. by S. Barnett et al. (AIP conference proceedings; v.734) *American Institute of Physics*, ©2004 4 2 7 p.\$189.00

The fledgling science of quantum information applies quantum physics to the challenges of next-generation information processing. Papers from a July 2004 conference describe current research in quantum communication, quantum computation, entanglement, quantum cryptography, sources of quantum states, and dissipation and decoherence. Some specific areas investigated include single-photon two-qubit logic gates, information processing in quantum spin systems, tracking the oscillations of a single qubit by means of sequential measurements, and modeling of miniature ion traps for quantum computing. A companion CD-ROM contains the papers from the conference. There is no subject index.

TK5105 1-932111-90-5

**Small websites, great results.**

Addison, Doug. *Syngress Media, Inc.*, ©2005 279 p. \$29.99 (pa) A freelance web producer and journalist guides readers through the construction of efficient business sites that are easy for customers and clients to use. He covers topics including what makes small sites work; strategies for making a small site look professional; working with designers; and methods for getting and keeping customers. The work provides examples of successful sites for different kinds of businesses—artists, writers, consultants, restaurants, trade services, and others. Illustrated with b&w screen shots.

TK5105 2004-016284 1-59140-328-6

**Web systems design and online consumer behavior.**

Title main entry. Ed. by Yuan Gao. *Idea Group Publishing*, ©2005 330 p. \$74.95 (pa) Academics in business, marketing, computer science, and communications primarily from US universities (but also representing South Korea, Taiwan, and Europe) explore the underlying connections between the structural features of e-commerce sites and user perceptions. Chapters look at facets of e-commerce including consumer behavior, usability and interface design, systems

design, and customer trust and loyalty. The work is intended for scholars and practitioners in fields including user interface design, Web site development, system design for Web marketing, human-computer interaction, user acceptance of information technology, and e-commerce-related research and practices. The editor teaches information systems at Ramapo College of New Jersey.

TK5105 2004-046417 0-8493-3027-0

**Network security technologies, 2d ed.**

Fung, Kwok T. *Auerbach Pub.*, ©2005 273 p. \$79.95 This resource for practitioners presents a diverse array of network security technologies and outlines their practical applications. Technologies are classified as basic, enhanced, integrated, and architectural as a means of associating their functional complexities and providing insight into their relationships. Included in the appendix are router security recommendations from the National Security Administration and an example of RSA public-key cryptography. Fung worked for AT&T Bell Laboratories for more than 20 years and taught computer science at the U. of Windsor, Ontario, Canada. Distributed by CRC.

TK5105 2004-114318 0-7695-2263-7

**Applications and the Internet workshops (SAINT 2005); proceedings.**

International Symposium on Applications and the Internet; Workshops (2005: Trento, Italy) Ed. by Mike Papazoglou and Katsuyuki Yamazaki. *Computer Society Press*, ©2004474 p.\$208.00 (pa) This volume contains the 116 presentations delivered during the ten workshops held as part of the February 2005 symposium on internet computing, technologies, software, services, and applications. The workshops address IPv6 deployment, network security threats, context-aware personalization for the mobile internet, quality of service evaluation, and computer intelligence for exabyte scale data explosion. Specific topics include an approach for describing and querying service behavior in distributed systems, a context-adaptive group awareness tool, spam filtering with cryptographic ad hoc e-mail addresses, measurement of DNS traffic caused by DDoS attacks, and a comparison of internet payment solutions. No subject index is provided.

TK5105 2004-114317 0-7695-2262-9

**Applications and the Internet (SAINT 2005); proceedings. (CD-ROM included)**

Symposium on Applications and the Internet Workshops (2005: Trento, Italy) Ed. by Wojciech Cellary and Hiroshi Esaki.

Computer Society Press, ©2004 438 p. \$208.00 (pa)

These 55 full papers from the February 2005 symposium are divided into 18 sessions on such contemporary issues as web services, collaborative applications, virtual systems, dedicated middleware, novel networking solutions, and security mechanisms. Specific topics include an edge server software architecture for sensor applications, a goal description language for semantic web service automatic composition, a firewall analysis and configuration engine, enhanced flooding control methods based on biotic growth, and a memory management mechanism for detecting spam. The CD-ROM contains electronic versions of the papers in PDF format, along with the workshop papers from the second volume.

TK5105 2004-057902 0-8493-2272-3

**Disruptive security technologies with mobile code and peer-to-peer networks.**

Brooks, R. R.

CRC Pr., ©2005 381 p. \$89.95

This book presents initial steps towards creating secure systems that overcome attacks through adaptation. It provides a model explaining mobile code and methods for designing robust peer-to-peer networks. Methods are provided for implementing adaptive systems designed to tolerate many current attacks. After early chapters providing background on computer security, the book describes recent advances in relevant technology, and provides results from research programs. Author information is not given.

TK5105 1-55617-874-3

**Industrial network security.**

Teumin, David J.

ISA, ©2005 144 p. \$59.00 (pa)

Based on recent ANSI/ISA reports, this handbook outlines security measures for protecting the instrumentation, control, and automation networks that exist within utility grids, chemical processing plants, and discrete manufacturing plants. Although physical and personnel security are briefly considered, it focuses on the threat of attacks through computer networks and offers solutions based on defense in layers, access control technologies, and written security

documents. Case histories of DuPont and Procter & Gamble round out the book.

TK6565 2004-023221 1-55617-897-2

**Sensor performance and reliability.**

Hashemian, H. M.

ISA, ©2005 306 p. \$85.00 (pa)

Hashemian, active in research and development in the process instrumentation area, describes several new instrumentation testing, diagnostics, and analysis techniques to verify the reliability and performance of process instrumentation. He explains how to assess the accuracy, response time, residual life, and other characteristics of installed instrumentation, and offers a practical means to identify problems, assess their consequences, and resolve them. Applications are described in the power, chemical, and aerospace industries.

TK6592 0-86341-360-9

**Ground penetrating radar; 2d ed. (CD-ROM included)**

Title main entry. Ed. by David J. Daniels. (IEE radar, sonar, navigation and avionics series; v.15)

IEE, ©2004 726 p. \$99.00

In this revised and expanded edition of his book *Surface-Penetrating Radar* (IEE, 1996), Daniels, a consultant on sensors, presents key elements of ground penetrating radar (GPR) techniques for non-specialist users and engineers, incorporating information from the disciplines of electromagnetics, geophysics, and signal processing. The book will enable users to assess the potential of the technique and apply it effectively with current technology. An accompanying CD-ROM contains examples of GPR data and processing techniques as MathCAD worksheets. The book is distributed in the US by Books International.

TK7867 2004-054806 0-471-27230-2

**Multiresolution time domain scheme for electromagnetic engineering.**

Chen, Yinchao et al. (Wiley series in microwave and optical engineering)

Wiley-Interscience, ©2005 359 p. \$99.95

Though the scheme has grown dramatically over the past decade, say electrical engineers Chen (U. of South Carolina-Columbia), Qunsheng Cao (U. of Minnesota-Minneapolis) and Raj Mittra (Pennsylvania State U.), few texts and research books have focused on it. Attributing this largely to the mathematics of it being quite challenging for most electrical and electronic engineers, and to the lack of familiarity among mathematicians

with the electromagnetic wave engineering applications of the scheme, they seek to bridge the two fields at this particular topic. They have researched references and tested numerical implementations in order to clarify concepts and allow readers to learn them quickly. The study can be used as a self-study guide for engineers and scientists, or as a graduate or senior undergraduate textbook in electrical engineering, physics, or applied mathematics.

TK7871 0-471-70055-X  
**CMOS; circuit design, layout, and simulation, 2d ed.**

Baker, R. Jacob. (IEEE Press series on microelectronic systems)  
*Wiley-Interscience*, ©2005 1038 p. \$99.95  
 Baker (electrical and computer engineering, Boise State U.) describes and compares design techniques for both long- and short-channel complementary metal oxide semiconductor (CMOS) technologies. He has designed the text to be relevant to courses on very large-scale integration (VLSI) or physical integrated circuit (IC) design, analog IC design, memory circuit design, and advanced analog IC design. Discussion of circuit layout is incorporated into the discussion of design. For researchers, Baker has included topics such as noise consideration and sensing using delta-sigma modulation and, for working engineers, he provides useful design and layout examples. Knowledge of linear circuits, microelectronics, and digital logic design is assumed.

TK7871 0-87170-804-3  
**Microelectronic failure analysis; desk reference, 5th ed. (CD-ROM included)**

Title main entry. Ed. by Electronic Device Failure Analysis Society Desk Reference Committee.  
*ASM International*, ©2004 800 p. \$180.00  
 For newcomers cast into the waters to sink or swim as well as seasoned professionals who want authoritative guidance desk-side, this hefty volume updates the previous (1999) edition. It contains the work of expert contributors who rallied to the job in response to a committee's call for help (the committee was assigned to the update by the Electronic Device Failure Analysis Society). Coverage includes failure analysis process flow, verification, classifications, special devices, non destructive analysis techniques, fault localization at the die level (depackaging, photo emission techniques, microthermography, laser & particle beam-based techniques), and deprocessing and imaging techniques. Appended are failure analysis terms and definitions, and JEDEC standards for failure

analysis. The included CD-ROM presumably contains the complete text for those who prefer to access material on a screen.

TK7871 0-8247-5947-8  
**Organic light-emitting diodes; principles, characteristics, and processes.**

Kalinowski, Jan. (Optical engineering; v.91)  
*Marcel Dekker*, ©2005 466 p. \$169.95  
 This work outlines problems underlying the function of organic LEDs which use biomolecular charge recombination. Kalinowski (Technical University of Gdansk, Poland) describes the most recent developments in organic electroluminescence and their application to light emitting diodes, and illustrates physical principles of organic LEDs and their electrical and optical characteristics with a range of practical examples. Chapters cover generation of excited states by charge recombination, types and decay pathways of excited states, spatial distribution of excited states, and electrical and optical characteristics of organic LEDs.

TK7872 2001-52289 1-903996-64-3

**Progress in ultra-short electromagnetic pulse technology; a new frontier in physics. (reprint, 2002)**

Eloy, Jean-Francois.  
*Kogan Page Science*, ©2004 253 p. \$59.95 (pa)  
 The pulses and their interaction with matter are attracting interest in both science and technology, says French physicist Eloy, because of their potential to reveal transient features of physical phenomena and to probe the particular electromagnetic and physical properties of all sorts of materials. He assembles a series of lectures he presented in Sweden in 1999 that summarize his 35 years of research, primarily for graduate students and practicing engineers but also scientists in various fields. Hermes Science Publications published the French edition in 2000 and the clothbound English in 2001. Distributed by Stylus.

TK7874 2004-055360 0-8493-2766-0

**Logic design of nanoICs.**

Yanushkevich, Svetlana N. et al. (Nano- and microscience, engineering, technology, and medicine series)  
*CRC Pr.*, ©2005 459 p. \$99.95  
 Yanushkevich (University of Calgary, Canada) introduces the concept of computer-aided logic circuit design in nanometric space, combining a focus on basic principles of logic design in spatial dimensions with a description of innovative ideas and solutions inspired by recent advances in



logic design and nanotechnology. Each chapter features an overview of current results and discussion of ways to integrate specific algorithms into novel systems. The book is for researchers working on design of nanodevices, and for computer and electrical engineers and graduate students interested in logic design of discrete devices in nanodimensions.

TK7874 2004-045729 0-8493-1941-2

### **Low-power electronics design.**

Title main entry. Ed. by Christian Piguet. (Computer engineering; 1)

CRC Pr., ©2005 — p. \$129.95  
High-performance chips and portable devices share a problem: despite the high expectations for them, they must also be designed to operate at low power. In this collection of 46 articles, expert contributors examine all aspects of low power design and development, including technologies and devices (including leakage in CMOS nanometric technologies), low-power circuits (including modeling, arithmetic operators and VHDL for low power), low-power processors and memories (including DSPs), low-power systems on chips, embedded software, CAD tools, battery cells, sources of energy, and chip cooling. Each article includes references and the editor provides a general index.

TK7881 2004-050269 0-8493-1524-7

### **Coding and signal processing for magnetic recording systems.**

Title main entry. Ed. by Bane Vasic and Erozan M. Kurtas. (Computer engineering series)  
CRC Pr., ©2005 — p. \$139.95  
Vasic (electrical and computer engineering, University of Arizona) and Kurtas, a researcher in the private sector, review advanced coding and signal processing techniques and architectures for magnetic recording read channels. After an introduction to basic principles of magnetic recording, the book provides communication and information theory tools necessary for design and analysis of coding and signal processing techniques, and covers coding and signal processing for read channels and iterative decoding. Each section begins with a review of underlying principles, then describes state-of-the-art systems, and ends with material on novel and advanced techniques.

TK7887 2004-103150 0-7645-5731-9

### **PC upgrade and repair bible, desktop ed.**

Press, Barry and Marcia Press.

John Wiley & Sons, ©2004 475 p. \$24.99 (pa)

This guide explains the function of each hardware component inside a personal computer, offers guidance on whether to upgrade a processor or storage device, and overviews the various multimedia programs and peripherals that are available on the market. The desktop edition eliminates the topics, product photos, and specifications useful only to large companies.

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## **MOTOR VEHICLES, AERONAUTICS, ASTRONAUTICS**

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TL552 2004-007443 0-7546-3616-X

### **Airline operations and scheduling.**

Bazargan, Massoud.

Ashgate Publishing Co., ©2004 205 p. \$79.95

Aimed at graduate and undergraduate students in business, management, transportation and engineering, this text introduces the central issues of airline operations and schedules and reviews various optimization models in practice. Each model is accompanied by case studies. Bazargan (productions/operations management and research, Embry-Riddle Aeronautical U.) notes that the best use of the text is to group students into small teams and have them assume the role of operations managers to create their own airline, with all its attendant problems.

TL1100 2004-054509 0-8493-2786-5

### **Spacecraft power systems.**

Patel, Mukund R.

CRC Pr., ©2005 691 p. \$149.95

Patel, a research engineer and consultant in electrical power systems, addresses every facet of the design, analysis, and operation of electrical power systems for spacecraft. Coverage encompasses fundamentals of energy conversion, energy storage, power conditions, energy management, and operational aspects. The book will benefit spacecraft power system design and development engineers, mechanical and aeronautical engineers, chief engineers, and program managers. It can also be used as a text for senior or graduate students with a college-level background in physics and mathematics.



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**CHEMICAL TECHNOLOGY**


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TP155 3-527-31142-4

**Design of experiments in chemical engineering; a practical guide.**

Lazic, Zivorad R.

Wiley-VCH, ©2004

610 p. \$230.00

For those involved in research, development, and process control, this book offers coverage of design screening and mathematical modeling and deals with process and mixture factors individually and together. The initial chapter offers an introduction to statistics, filling an unfortunate gap, according to the author, in many researchers' knowledge. Following is his coverage of the design of experiments in which he compares one-factor-at-a-time design and statistically designed experiments and then offers analysis of various objectives, factors, and techniques. The final chapter focuses on mixture design, which is particularly significant for developing new materials. The author works as a quality assurance manager and is an expert in advanced statistical tools, design of experiments, evolutionary operation, neural-networks modeling, and the six-sigma approach.

TP200 2004-051930 0-8493-0910-7

**Inorganic materials chemistry desk reference, 2d ed.**

Sangeeta, D. and John R. LaGraff.

CRC Pr., ©2005

372 p. \$149.95

Intended to assist in the preparation of solid state inorganic materials by chemical processing techniques, this reference includes property data in inorganic precursors and on inorganic solids in the selection of precursors and other materials. After an introduction to inorganic materials chemistry and a chapter defining terms, the text concentrates on data about the physical properties of inorganic materials precursors, properties of inorganic materials, and their applications in such areas as surface science, nanotechnology, and microelectronics. This new edition adds illustrations, definitions, and updates materials on biomaterials, precursors and their properties.

TP339 2004-006810 1-84407-132-4

**Planning and installing bioenergy systems; a guide for installers, architects and engineers.**

Title main entry. Ed. by German Solar Energy Society (DGS) and Ecofys.

Earthscan Publications Ltd., ©2005 268 p. \$115.00

Bioenergy is a modern solution for local energy supply and waste management. This wire-comb-bound guide explains the fundamentals of

different bioenergy projects, reviews the main technologies involved, and offers best-practice examples and color photos of actual projects. After an overview of the technologies and types of systems available, the guide offers technical know-how on anaerobic digestion, bio-fuels, small-scale ovens, large-scale boilers, and gasifiers. Each technology is explained by examining the overall system and its components, planning, operation, maintenance, installation, and economics. In addition, there is material on the international legal framework and selected regional, national, and international support programs. The book is distributed in the US by Stylus.

TP814

2004-301733

1-5749-

8211-7

**Colloidal ceramic processing of nano-, micro-, and macro-particulate systems; proceedings.**

International Symposium on Colloidal Ceramic Processing (105th: 2003: Nashville, Tenn.) Ed. by Wei-Heng Shih et al. (Ceramic transactions; v.152)

American Ceramic Society, ©2004 148 p. \$109.00

Papers from an April 2003 symposium summarize recent developments in colloidal ceramic processing and cover a broad range of subjects, including nano-, micro-, and macro-particulate systems. Some subjects examined are aqueous processing of WC-Co powders, colloidal processing of SiC with 700 MPa of flexural strength, adsorption of poly(acrylic acid) on commercial ball clay, analysis of thickness control variables in tape casting, and dispersability of nanometer-sized ceria particles. Other subjects are micromechanical testing of two-dimensional aggregated colloids, rheology of ceramic slurries for electro-deposition in rapid prototyping applications, and analysis of action mechanisms of anionic polymer dispersant.

TP858

2004-301976

1-5749-

8156-0

**Advances in fusion and processing of glass 3; proceedings.**

International Conference on Advances in Fusion and Processing of Glass (7th: 2003: Rochester, N.Y.) Ed. by James R. Varner et al. (Ceramic transactions; v.141)

American Ceramic Society, ©2004 478 p. \$129.00

Papers from a July 2003 conference describe recent work in the glass melting process, characterization of glass melts and melt properties, materials for glassmaking, advances in glass forming and glass surface engineering, polyvalent elements and redox behavior, effects of composition and forming on structure and

properties, environmental issues, computer modeling and process control, secondary processing, and non-traditional processing. Some specific topics include selective batching for improved commercial glass melting, the effects of vanadium additions on the surface tension of soda lime silicate melts, and kinetics and mechanisms of niobium corrosion in molten glasses.

TP1120 0-8247-5386-0  
**Polymer processing instabilities; control and understanding.**

Title main entry. Ed. by Savvas G. Hatzikiriakos and Kalman B. Migler. (Chemical industries; v.103)  
*Marcel Dekker*, ©2005 470 p. \$169.95  
 Hatzikiriakos (chemical and biological engineering, University of British Columbia, Canada) and Migler (Polymers Division, National Institute of Standards and Technology) compile work describing current progress in fundamental and practical understanding of the various flows that occur during polymer processing. Emphasis is given to the flow instability of melt fracture, since these phenomena have drawn the attention of many researchers in recent years. Viscoelasticity and basic flows are also examined, and applications are described in fiber spinning and film blowing instabilities, coextrusion instabilities, and instabilities in injection molding. The book is intended for polymer rheologists, scientists, engineers, and graduate students.

TP1140 2004-017192 1-56990-370-0  
**Design formulas for plastics engineers, 2d ed.**

Rao, Natti S. and Günter Schumacher.  
*Hanser/Gardner Pub.*, ©2004 167 p. \$69.95 (pa)  
 Part of the art of engineering is knowing when to apply the human element to make the design work in reality, not just in the computer simulation. Rao (U. of Texas and U. of Massachusetts) and Schumacher (innovation center, European Commission) give engineers the background to make decisions on design and application based on a thorough knowledge of the underlying formulae. They examine formulae of rheology and heat transfer, thermodynamic properties, and designing plastics parts, extrusion equipment, and injection molding equipment. For this edition they have expanded and updated their collection of formulae.

TP1180 2004-014996 1-56990-369-7

**Polyolefins; processing, structure development and properties.**

White, James L. and David D. Choi.  
*Hanser/Gardner Pub.*, ©2005 271 p. \$129.95  
 This work describes the structuring of molten polyolefins in fiber and molding processes with correlations between structural order such as crystalline unit cell, polymorphic effect and orientation, and processing parameters. The book treats the history, commercialization, characterization, and crystallography of various commercial polyolefins and polystyrenes, and describes the development of structure during fabrication of these polymers into various shapes. Readership for the book includes engineers, chemists, and technologists working with polyolefins. The book was written while the authors were affiliated with the Institute of Polymer Engineering at the University of Akron.

## PHOTOGRAPHY

TR897 0-7695-2164-9  
**Multimedia modelling (MMM 2005); proceedings.**

International Multimedia Modelling Conference (11th: 2005: Melbourne, Australia). Ed. by Yi-Ping Phoebe Chen.  
*Computer Society Press*, ©2005 466 p. \$208.00 (pa)  
 Papers collected in this work were selected for presentation at a January 2005 conference held in Melbourne, Australia. The conference concentrated on common modeling frameworks for integrating the diverse fields of audio, video, and virtual world information, and explored technological and artistic advancements in multimedia. Major themes of the conference are audio analysis and modeling, video manipulation and modeling, video mining and MPEG, image modeling and editing, image retrieval, multimedia presentation and knowledge sharing, AI and image recognition, and mobile and virtual multimedia environments. There is no subject index.

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**MANUFACTURES**


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TS155                                      2004-054439    1-57444-336-4

**Agent-based manufacturing and control systems; new agile manufacturing solutions for achieving peak performance.**

Paolucci, Massimo and Roberto Sacile.

*CRC Pr.*, ©2005                                      269 p.                                      \$79.95

Paolucci and Sacile, both faculty of the Department of Communication, Computer, and System Sciences at the University of Genova, assert that in today's increasingly globalized, fast-paced marketing environment, agent-based technology will become more and more necessary for keeping businesses responsive to marketing changes and customer needs. Using a fictitious firm as an example throughout the book, the authors offer graduate-level students and experienced industry professionals a practical, comprehensive look at issues of design, planning, scheduling, and control; simulation techniques for validating systems before implementation; and future challenges. Numerous charts, diagrams, and drawings illustrate and clarify the text.

TS156                                      2004-022390    0-87389-644-0

**The process approach audit checklist for manufacturing. (CD-ROM included)**

Welch, Karen.

*ASQ Quality Press*, ©2005                                      114 p.                                      \$28.00 (pa)

In this book/CD-ROM manual, Welch, a third-party auditor since 1997, provides a brief overview of the process approach to conducting and planning quality system audits, discusses problem areas often encountered by third-party auditors, and supplies an ISO 9001:2000 checklist that can be used to conduct a process-based audit. The checklist, plus forms to be used in conjunction with the checklist to increase audit effectiveness, are included on the accompanying CD-ROM. The manual will be used by quality auditors, quality managers, management representatives, and quality engineers.

TS157                                      2004-007060    1-932159-30-4

**Practical production control; a survival guide for planners and schedulers.**

McKay, Kenneth N. and Vincent C.S. Wiers.

*J. Ross Publishing*, ©2004                                      269 p.                                      \$54.95

Focusing on discrete part manufacturing with batches, operations, and routings, this guide suggests ways to identify limiting factors for

improved production control and bump production control up a notch. McKay (University of Waterloo) and Wiers (VCS consulting) offer their advice on organizing the work day, choosing and acquiring software, hiring and training a new planner, performing the MRP approach to capacity analysis, dealing with uncertainty, and managing bottlenecks.

TS173                                      2004-051933    0-8493-3068-8

**Reliability, quality, and safety for engineers.**

Dhillon, B.S.

*CRC Pr.*, ©2005                                      219 p.                                      \$129.95

Jumbo jets contain about 4.5 million parts. That fact alone should scare more people into close attention to reliability, quality and safety. Dhillon (mechanical engineering, U. of Ottawa) takes an interdisciplinary approach that includes mathematics, modeling, management, and money. He gives the history of the quality and safety disciplines, references, and the basic mathematics used in creating and evaluating data. He introduces reliability models and their testing and evaluation methods, and concepts of quality and its analysis methods. Dhillon's descriptions of safety issues include safety analysis methods, management and costing, and safety on robots, software, and medical devices. Dhillon includes examples, problems (and answers) and lists of relevant resources.

TS695                                      0-8247-5788-2

**Luminous chemical vapor deposition and interface engineering.**

Yasuda, Hirotsugu. (Surfactant science series; v.122)

*Marcel Dekker*, ©2005                                      819 p.                                      \$189.95

Yasuda (chemical engineering, University of Missouri-Columbia) provides in-depth coverage of the technologies and various approaches in luminous chemical vapor deposition (LCVD) and showcases the development and use of LCVD procedures in industrial scale applications. The book provides broad coverage of the relationships involved in the interface between gas/solid, liquid/solid, and solid/solid which can be utilized in low-pressure plasma interface engineering, with attention focused on plasma polymerization. Coverage progresses from fundamentals of LCVD through operation of LCVD and LCVT, surfaces and interfaces, and interface engineering.

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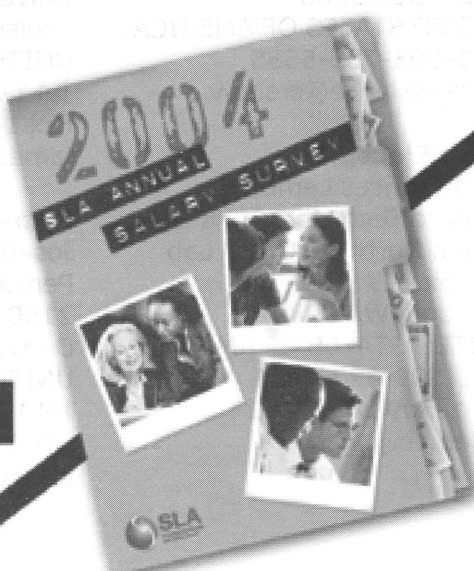
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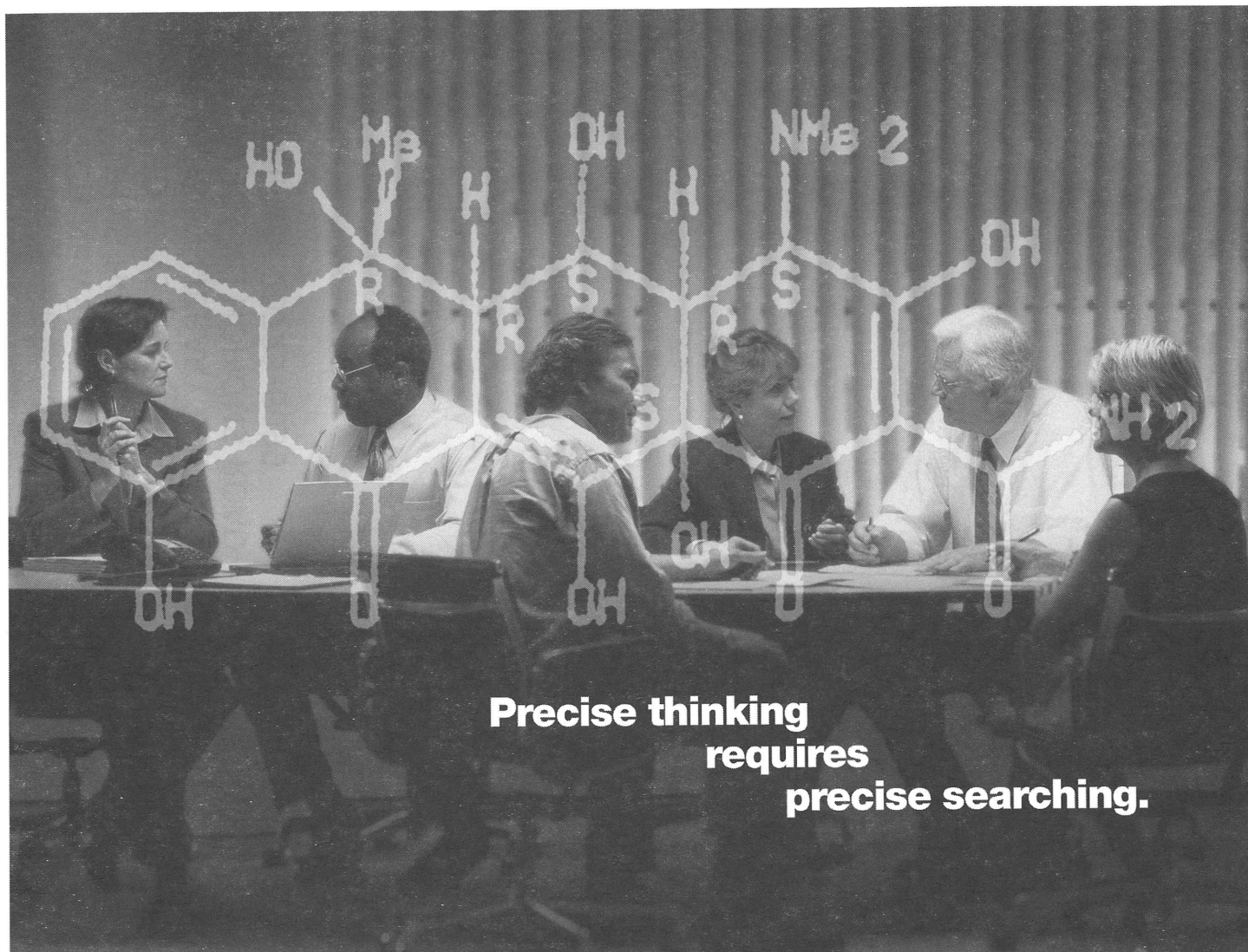
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